SELF-DIRECTED LEARNING IN
NURSE EDUCATION:

A CASE STUDY ON AN ORTHOPAEDIC WARD

BY

SHIRLEY ANN WICKENDEN

A THESIS SUBMITTED TO THE UNIVERSITY OF SURREY
IN PARTIAL FULFILMENT OF THE REQUIREMENTS
FOR THE DEGREE OF DOCTOR OF PHILOSOPHY

1988
ABSTRACT

The study reported in this thesis is concerned with the education of basic general nurses whilst they are working in the clinical setting. Set against a system where the position of the student is essentially that of an apprentice, previous studies have demonstrated that theory is often divorced from practice and any teaching which does take place is frequently sparse and erratic.

In an attempt to alleviate this situation, this study examines the circumstances surrounding the introduction of a scheme of self-directed learning (in the form of learning packages) into two orthopaedic wards in a District General Hospital.

Using a case study approach to educational research, the techniques of illuminative evaluation are used to monitor the project in all its phases (planning, production and implementation). Throughout the study, the effects of this educational innovation are viewed from three main perspectives:—

i) the student and pupil nurses; ii) the permanent, qualified staff on the wards; iii) the nurse teachers.

Findings from the study demonstrate that although the planning and production of learning packages which are appropriate for use in clinical areas is both time-consuming and initially expensive, their use in promoting learning and in helping students (and pupils) from a wide range of educational abilities to apply theory to practice is effective.

Since the learning package was introduced, i) the students' motivation to learn increased, their study habits improved and they became generally more questioning; ii) the quality of teaching by both the qualified ward staff and the nurse teachers improved in a variety of ways. The total effect was therefore one of a generally enhanced teaching/learning milieu within the clinical areas concerned. There was some definite evidence
to suggest that this change of circumstances had a beneficial 
effect on patient care.

The need for a "partnership approach" to nurse education 
between the nurse teachers and the clinical staff was highlighted 
by the findings from every stage of the study, as was the 
changing role of the teacher who employs methods of self-directed/ 
distance learning.

In the last chapter of the thesis certain conclusions are 
drawn from these findings and they are examined alongside those 
from other studies which have investigated the teaching and 
learning of nurses in the clinical areas. The external validity 
(generalizability) of small, predominantly qualitative studies 
of this nature is also discussed. Finally several 
recommendations are made and suggestions are put forward for 
further research in similar areas.
ACKNOWLEDGEMENTS

There are many people to whom I wish to record my sincere thanks for all the help and support I have received with this research project.

Firstly my supervisor, Dr John Gilbert, whose guidance and encouragement I could rely upon at all times.

The research methods course organised by Dr Maureen Pope has proved a valuable foundation to the planning and process of my work.

Many of the staff in the Audio-Visual Aids Department at the University of Surrey helped me with the production of the tape-slide programmes and other media used in this study. I would especially like to thank Steve Heritage, Kevin Shaughnessy and Brian Johnson.

The tremendous co-operation and goodwill shown by the many staff and patients in the clinical setting who took part in this study deserves special thanks. I am particularly indebted to Sue Harris and Pauline McKintosh for their invaluable contributions.

As well as giving encouragement and making valuable suggestions several friends and colleagues have made practical contributions to my work. Jan Williams was a great help in assembling the contents of the learning packages and in helping with the exhibition. A special thank you goes to Annette Stannett for her constant support and practical help during the last few weeks before this thesis was bound.

The typing of the transcripts from the interviews was painstakingly undertaken by Ken Hounsome and Christine Howard. This thesis was typed most efficiently and cheerfully by Penny Briggs. To all three I owe my thanks.

The help given by Audrey Nellist and Caroline Sawers with the retrieval of information at all stages of this project has also been much appreciated.
As none of this work would have been possible without the appropriate funding I should like to thank the following for their help with all the administrative arrangements: Professor Christopher Armstrong-Esther, Peter Dunham, Professor David James, Sue Rossler and Clive Turner.

Finally I am grateful to my mother for her unending encouragement, cheerfulness and patience during the time I have been completing this work.
TABLE OF CONTENTS

ABSTRACT (i)
DEDICATION (iii)
ACKNOWLEDGEMENTS (iv)

CHAPTER ONE INTRODUCTION AND SUMMARY OF CHAPTERS
1.1 Introduction 1.1
1.2 Summary of Chapters 1.1

CHAPTER TWO IDENTIFICATION OF THE PROBLEM AND LITERATURE REVIEWS 2.1
2.1 Identification of the Problem 2.1
2.2 Literature Review - Nurse Training and Education 2.10
2.2a Historical Development 2.10
   a(i) The Preparation and Training of the Registered Nurse 2.11
   a(ii) The Preparation and Training of the State Enrolled Nurse 2.17
   a(iii) The Preparation and Training of Teachers of Nurses 2.21
   a(iv) Degree Courses for Nurses 2.28
   a(v) The Current Situation 2.31
2.2b Research Relevant to Teaching and Learning in the Clinical Situation. Integration of Theory and Practice 2.39
   b(I) What is "taught" and what is "practised" 2.40
   b(II) Studies which highlight poor teaching and learning on the ward areas 2.44
   b(III) Studies which relate to the teaching role of
      a) The Ward Sister 2.62
      b) The Nursing Officer/ Clinical Nurse Specialist 2.65
      c) The Teachers of Nursing 2.67
   b(IV) Action Research which has aimed at improving the relationship between theory and practice in the Clinical Areas 2.70
b(V) Conclusions 2.78

2.3 Literature Review.
Distance/Self Directed Learning 2.81
   a Evolution, Characteristics, Uses and Psychological Basis of Distance Education 2.82
   b Distance Learning.
   Relevant Research Findings in General and Nursing Education 2.106
      (1) Students' Reactions (attitudes) to Individual Study Courses 2.107
      (2) End of Course Achievement 2.109
      (3) Long Term Retention 2.110
      (4) The Mastery Requirement 2.111
      (5) The Use of Proctors 2.113
      (6) The Use of Lectures 2.114
      (7) The Time Taken to Complete Units 2.115
      (8) The Cost of Courses 2.116
      (9) Students' Study Habits and Approach to Learning 2.117
      (10) The Changing Role of the Teacher 2.119
      (11) Reasons for Participation in Self Study 2.120

CHAPTER THREE RESEARCH METHODOLOGY: APPROACH, METHODS AND TECHNIQUES 3.1

3.1 Introduction 3.1

3.2 Paradigms in Educational Research 3.1

3.3 The Research Method Which was Used for this Study 3.8

3.4 Research Techniques used at each stage (phase) of this study 3.11

3.5 Analysing the Data 3.17

3.6 The Teacher as Producer/Evaluator (Researcher) 3.22

3.7 Summary 3.25
CHAPTER FOUR
PLANNING AND SETTING UP THE PROJECT. 1981 to 1982

4.1 Introduction 4.1
4.2 Choice of Clinical Areas 4.1
4.3 Negotiating a Contract 4.9
4.4 Defining Clinical Learning Objectives 4.11
  a) Knowledge 4.16
  b) Manipulative Skills 4.29
  c) Attitudes and Interpersonal Skills 4.41
4.5 Current Methods Used to Teach Student and Pupil Nurses Allocated to the Orthopaedic Wards. Official and Unofficial Sources of Learning 4.56
4.6 Methods of Improving the Present Teaching/Learning Situation. Opinions Concerning the Introduction of a Scheme of Self-Directed Learning Materials 4.71
4.7 Monitoring Ready Made Materials 4.80
4.8 Budgetting. Finances and Resources. Purchasing Readymade Materials 4.98
4.9 Pilot Study. July - October 1982 4.102

CHAPTER FIVE
PRODUCTION OF NEW LEARNING MATERIALS. PUTTING THE PACKAGE TOGETHER

5.1 Introduction 5.1
5.2 Reasons for Choice of Content and Media 5.1
5.3 Producing the Tape/Slide Programmes 5.3
  a) Acquiring the skills. Laying the Foundations. 5.3
  b) Planning the Programmes 5.3
  c) Taking the Photographs 5.6
  d) Writing and Recording the Script 5.13
5.4 Display Boards 5.16
5.5 Selection of Articles 5.20
5.6 Putting the Learning Package Together 5.20
CHAPTER SIX IMPLEMENTATION AND ORGANISATION OF THE MAIN PROJECT

6.1 Preparation of the Trained Staff 6.1
6.2 Preparation of the Students 6.4
6.3 Pre-Testing 6.5
6.4 Allocation of the Learning Package 6.5
6.5 Supporting/Visiting Students and Pupils While They Were Using the Learning Package. Monitoring Their Progress and Opinions 6.7
6.6 Post-Testing 6.7
6.7 Collection, Care and Storage of Materials. Collection of Evaluation Data 6.11
6.8 Interviewing the Learners 6.17
6.9 Use of Learning Materials Kept Centrally 6.17
6.10 Issue of Materials to Qualified Staff. Interviewing Qualified Staff 6.19
6.11 Handover of the Project to Local Staff 6.21
6.12 Summary 6.23

CHAPTER SEVEN DATA ANALYSIS FROM THE MAIN STUDY. THE EFFECT OF USING DISTANCE LEARNING METHODS FOR STUDENT AND PUPIL NURSES WHEN THEY ARE ALLOCATED TO THE CLINICAL AREAS (ORTHOPAEDIC WARDS) 7.1

Introduction 7.1

7(A) The Perspective of the Student and Pupil Nurses 7.2
7(A)1 Approach to the Project 7.3
a) Age 7.3
b) Resident/Non Resident 7.3

c) General Educational Attainment 7.4

d) Private Study Habits 7.5

e) Feelings About Compulsory Work Assignments During Clinical Allocations 7.8

f) Previous Experience with Distance Learning 7.12

g) Level of Satisfaction with Nurse Training/Education 7.13

h) Allocation to the Orthopaedic Wards 7.30

i) Summary 7.32

7(A)2 General Feelings Towards the Use of The Learning Package 7.35

a) Positive Feelings 7.35

b) Negative Feelings 7.46

c) Summary 7.62

7(A)3 Change in Study Patterns 7.65

7(A)4 The Learner's Evaluation of the Individual Components of the Package, Workbooks, Types of Media Used, Testing 7.69

a) The Workbook/Study Guide 7.69

b) The Self-Instructional and Programmed Texts 7.71

c) The Tape Slide Programmes 7.90

i) The Learning Objectives 7.99

ii) Student's General Impressions 7.102

iii) The Narration 7.108

iv) The Illustrations 7.112

v) The Activities for the Students 7.118

vi) The Follow-up Exercises 7.122

d) The Articles 7.127

e) The Pre and Post Tests 7.132

7(A)5 The Effects of Visits from a Teacher 7.134

7(A)6 The Relevance/Application of the Information in the Learning Package to the Clinical Work on the Ward 7.143
<table>
<thead>
<tr>
<th>Section</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>7(B)</td>
<td>The Perspective of the Permanent Ward Staff</td>
</tr>
<tr>
<td></td>
<td>1) The Production Phase</td>
</tr>
<tr>
<td></td>
<td>2) The Induction Stage</td>
</tr>
<tr>
<td></td>
<td>3) General Impressions of the Learning Package</td>
</tr>
<tr>
<td></td>
<td>i) Types of Media Used</td>
</tr>
<tr>
<td></td>
<td>ii) The Content</td>
</tr>
<tr>
<td></td>
<td>iii) The General Organisation Involved in Running the Project</td>
</tr>
<tr>
<td></td>
<td>4) The Effect of the Learning Package on the Teaching Role of the Qualified Nursing Staff</td>
</tr>
<tr>
<td></td>
<td>5) The Use of the Learning Package for In-Service Education of the Qualified Staff</td>
</tr>
<tr>
<td>7(C)</td>
<td>The Perspective of the Teachers</td>
</tr>
<tr>
<td></td>
<td>1) The Changing Role of the Teacher</td>
</tr>
<tr>
<td></td>
<td>2) In relation to their teaching</td>
</tr>
<tr>
<td></td>
<td>(i) In relation to the organisation and administration of the learning package</td>
</tr>
<tr>
<td></td>
<td>3) The Use of the Same Learning Package by Different Groups</td>
</tr>
<tr>
<td></td>
<td>4) The Cost of the Project</td>
</tr>
<tr>
<td></td>
<td>5) Other Areas Where This Method of Learning Would be Particularly Helpful</td>
</tr>
</tbody>
</table>

**CHAPTER EIGHT** REVIEW OF THE STUDY, SUMMARY OF THE FINDINGS

<table>
<thead>
<tr>
<th>Section</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>8.1</td>
<td>Introduction</td>
</tr>
<tr>
<td>8.2</td>
<td>The Situation Before the Introduction of Self-Directed Learning</td>
</tr>
<tr>
<td>8.3</td>
<td>The Planning Stage</td>
</tr>
<tr>
<td>8.4</td>
<td>Production of the Learning Materials</td>
</tr>
<tr>
<td>8.5</td>
<td>The Implementation and Organisation of the Main Project</td>
</tr>
<tr>
<td>8.6</td>
<td>General Feelings About the Use of Learning Packages, Distance Learning, Individualised Learning in the Clinical Areas</td>
</tr>
</tbody>
</table>
8.7 Comments Relating to the Various Media for Learning 8.12
8.8 The Main Differences Between the Three Groups of Learners 8.13
8.9 The Effect of the Learning Package on the Teaching Role of the Teachers and Qualified Ward Staff 8.15
8.10 The Effect of the Learning Package on Patient Care 8.17
8.11 The Use of the Learning Package for In-Service Education 8.17
8.12 Organisation and Administration 8.18
8.13 The Cost of the Project 8.19
8.14 The Use of this Method of Learning in Other Areas 8.20

CHAPTER NINE CONCLUSIONS, IMPLICATIONS AND RECOMMENDATIONS

9.1 Introduction 9.1
9.2 Research Question One 9.3
9.3 Research Question Two 9.8
9.4 Research Question Three 9.12
9.5 Research Questions Four and Five 9.17
9.6 Research Question Six 9.21
9.7 Research Question Seven 9.27
9.8 Research Question Eight 9.29
9.9 Overall Conclusion 9.32
9.10 Research Method Re-visited 9.34
9.11 Ideal Clinical Support 9.36
9.12 Recommendations 9.39
# APPENDICES

<table>
<thead>
<tr>
<th></th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Student Nurse Training Programme&lt;br&gt;Unit 5: Trauma</td>
<td>A.1</td>
</tr>
<tr>
<td>2</td>
<td>Pupil Nurse Training Programme</td>
<td>A.3</td>
</tr>
<tr>
<td>3</td>
<td>Interview Schedules Used in the Preliminary Phase of the Project</td>
<td>A.5</td>
</tr>
<tr>
<td>4</td>
<td>Orthopaedic Wards: Study Guide/Work Book</td>
<td>A.7</td>
</tr>
<tr>
<td>5</td>
<td>Individualised Learning Materials for Student and Pupil Nurses: Teachers' Guide</td>
<td>A.72</td>
</tr>
<tr>
<td>6</td>
<td>Firms and Institutions who were approached for information about audio-visual aids</td>
<td>A.88</td>
</tr>
<tr>
<td>7</td>
<td>Firms and organisations who provide information on hardware and packaging who were approached for</td>
<td>A.94</td>
</tr>
<tr>
<td></td>
<td>their literature</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Firms who produce orthopaedic equipment, implants and theatre instruments who were approached for</td>
<td>A.96</td>
</tr>
<tr>
<td></td>
<td>literature and educational programmes</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>Application to D.H.S.S. for Research Grant</td>
<td>A.98</td>
</tr>
<tr>
<td>10</td>
<td>Details of Funding for Buying Equipment and Producing Learning Materials for Individualised Learning</td>
<td>A.99</td>
</tr>
<tr>
<td></td>
<td>Package</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>Equipment on Loan</td>
<td>A.102</td>
</tr>
<tr>
<td>12</td>
<td>Self Report: Diaries</td>
<td>A.103</td>
</tr>
<tr>
<td>13</td>
<td>Evaluation Sheets used in the Pilot Study</td>
<td>A.104</td>
</tr>
<tr>
<td>14</td>
<td>Evaluation Sheets used in the Main Study</td>
<td>A.108</td>
</tr>
<tr>
<td>15</td>
<td>Consent to Photographs</td>
<td>A.114</td>
</tr>
<tr>
<td>16</td>
<td>Example of a Script for a Tape/Slide Programme</td>
<td>A.115</td>
</tr>
<tr>
<td>17</td>
<td>Aspects of Sick Children Nursing: A Learning Package</td>
<td>A.127</td>
</tr>
<tr>
<td>18</td>
<td>Questionnaire used in the Main Study</td>
<td>A.128</td>
</tr>
<tr>
<td>19</td>
<td>Follow up from Questionnaire. Used as a basis for questions during the interviews</td>
<td>A.136</td>
</tr>
<tr>
<td>20</td>
<td>Interview Schedule (semi-structured). For Student and Pupil Nurses</td>
<td>A.139</td>
</tr>
</tbody>
</table>
21. Interview Schedule (semi-structured).
   For Trained Nurses/Para-Medical/Medical Staff
   A.142

22. Data Analysis. Categories which emerged from the
    semi-structured interviews with 50 learner nurses
    in Phase IV of the Study
   A.144

23. Data Analysis. Categories which emerged from
    the semi-structured interviews with qualified
    staff
   A.147

24. Evaluation of Tape/Slide Programmes
   A.149

BIBLIOGRAPHY

LIST OF TABLES

2.1 Numbers entering basic nurse training
   in England (Initial entry or re-entry) 2.2
2.2 Hours per week recommended and spent teaching
   in a patient environment 2.6
2.3 Intake of pupil nurses for the general register. Years ending March 31st England
   and Wales 2.32
2.4 Nurse Teachers by Graduate Status 2.38
2.5 Reason for discontent mentioned by withdrawing candidates 2.43
2.6 Table to illustrate the different terms which were used in a variety of studies which
   examined the characteristics which distinguish between wards where teaching and
   learning is "good" and where it is "poor" 2.50
2.7 Time Nursing Officers spent teaching learners during one week 2.66

3.4(1) Self-directed Learning in Nurse Education
   A Case Study on an Orthopaedic Ward.
   The Main Phases of the Project 3.12

4.4 Analysis of knowledge Component Mentioned in Interviews 4.17

4.5 Objectives for student and pupil nurses on completion of their clinical experience on the
   orthopaedic wards (A). Cognitive Domain 4.27

4.6 Analysis of Manipulative Skills Mentioned in Interviews 4.30
4.7 Nurses experiencing patient handling incidents leading to back pain per 1,000 whole time equivalents per year 4.32

4.8 Objectives for student and pupil nurses on completion of their clinical experience on the orthopaedic wards (B) Psychomotor Domain 4.40

4.9 Analysis of Social Skills and Attitudes Mentioned in Interviews 4.42

4.10 Objectives for student and pupil nurses on completion of their clinical experience on the orthopaedic wards (C) Affective Domain 4.55

4.11 Staffing Levels on the Orthopaedic Wards During the Time of the Preliminary Interviews 4.57

4.11(b) Overall Costing of Research Project 4.102

4.12 Average amount of study per week in their off-duty times completed by nurse learners in the Pilot Study 4.125

4.13 Type and duration of new learning experiences for student and pupil nurses on the pilot study. Information taken from their self report diaries 4.127

6.1 Test Scores of Students Who Scored Better in Their Pre-Test Than They Did in Post-Test A 6.8

6.2 Completion of Evaluation Sheets for Tape/Slide Programmes 6.13

6.3 Amount of Work Completed by Three Groups of Learners 6.14

6.4 Hours Per Week Spent Working on the Learning Package 6.15

6.5 Time Spent on New Learning Experiences During Orthopaedic Allocation (apart from learning package) 6.16

6.6 Items Borrowed from Central Cupboard September 1983 to June 1985 6.18

7(A)1(i) Age Range of Student and Pupil Nurses Participating in the Project 7.3

7(A)1(ii) Living Arrangements for Student and Pupil Nurses Who Participated in the Project 7.4
7(A)1(iii) Numbers of 'O' Levels Obtained by Student and Pupil Nurses Who Participated in the Project 7.4

7(A)1(iv) Number of 'A' Levels Obtained by the Student and Pupil Nurses Who Participated in the Project 7.5

7(A)1(v) Table to Illustrate the Average Number of Hours of Private Study Worked by Members of Each Group During Their Last Year at School/College 7.5

7(A)1(vi) Table to Illustrate the Average Number of Hours of Private Study Worked by Members of Each Group at Weekends During Their Last Year at School/College 7.6

7(A)1(vii) Table to Illustrate the Average Number of Hours of Private Study Worked by Members of Each Group When They Are Working in the Clinical Situation (Wards, Departments, Community) 7.6

7(A)1(viii) Response to the question: "When you are studying, do you use your own textbooks?" 7.7

7(A)1(ix) Answer to the question: "Do you subscribe to a nursing or other professional journal?" 7.8

7(A)1(x) Answer to the question: "Have you read a nursing or other professional journal?" 7.8

7(A)1(xi) The number of participants in each group who have previously used any methods of distance learning 7.13

7(A)2(i) Positive Feelings Which Were Expressed by the Student and Pupil Nurses After Using the Learning Package 7.36

7(A)2(ii) Negative Feelings Which Were Expressed by the Student and Pupil Nurses After Using the Learning Package 7.47

7(A)2(iii) Overview of the Quantitative Data Collected from the First (Group A) and Third (Group C) Groups of Student and Pupil Nurses Who Used the Orthopaedic Learning Package 7.48

7(A)2(iv) Overview of the Quantitative Data Collected From the Second Group (Group B) of Student Nurses Who Used the Orthopaedic Learning Package 7.49

7(A)2(v) Overview of the Quantitative Data Collected From the Pupil Nurses Who Used the Orthopaedic Package 7.50
7(A)2(vi) Overview of the Quantitative Data Collected From The University Students Who Used the Orthopaedic Learning Package 7.51

7(A)2(vii) Summary of Quantitative Data from Tables 7(A)2(iii) - (vi) 7.52

7(A)2(4(i) "Anatomy and Physiology. A Self-Instructional Course. Locomotor System and Special Senses" Evaluation by University Students 7.72

7(A)4(ii) As above Evaluation by Pupil Nurses 7.73

7(A)4(iii) As above Evaluation by Student Nurses 7.74

7(A)4(iv) Response Rate for Completion of Evaluation Sheets for The Programmed Texts 7.79

7(A)4(v) Synopsis of Answers given by the University students to Questions on the Evaluation Sheets for The Programmed Texts 7.80

7(A)4(vi) Synopsis of Answers given by the Pupil Nurses to Questions on the Evaluation Sheets for The Programmed Texts 7.82

7(A)4(vii) Synopsis of Answers given by the Student Nurses to Questions on the Evaluation Sheets for The Programmed Texts 7.82

7(A)4(viii) Response Rate for the Completion of the Evaluation Sheets for the Tape/Slide Programmes 7.90

7(A)4(ix) Analysis of the Evaluation Sheets on the Tape/Slide Programmes 7.92

7(A)4(x) Results from Question 6(c) From The Evaluation Sheets for Programme Three (b) 7.109

7(A)4(xi) Results from Question 6(b) From the Evaluation Sheets for Programme Three (c) 7.109

7(A)4(xii) Results from Evaluation Sheets for the Tape/Slide Programmes Illustrating the Diversity of Answers to Question 7(c) 7.116

7(A)4(xiii) The Percentage of Learners in Each Group Who Completed the Follow-Up Exercises to the Tape/Slide Programmes and the Record of Patients With Orthopaedic Implants 7.123

7(A)4(xiv) The Number of Learners In Each Group Who Read the Articles and the Amount of Time Which Each Group Spent 7.128
<table>
<thead>
<tr>
<th>Section</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>7(C)1</td>
<td>Suggestions Made for the Expansion of Self-Directed Learning Methods to Other Clinical Areas</td>
<td>7.217</td>
</tr>
<tr>
<td>9.3</td>
<td>Effective Use of Manpower</td>
<td>9.24</td>
</tr>
</tbody>
</table>

**LIST OF FIGURES**

<table>
<thead>
<tr>
<th>Figure</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.8</td>
<td>Essential differences between control and experimental groups course on care of patients with gastro-intestinal disease</td>
<td>2.71</td>
</tr>
<tr>
<td>2.9</td>
<td>A diagram to show progression from teacher-centred to student-centred teaching and learning strategies</td>
<td>2.92</td>
</tr>
<tr>
<td>3.1</td>
<td>Paradigms in Educational Research</td>
<td>3.7</td>
</tr>
<tr>
<td>3.5(1)</td>
<td>Components of data analysis: Flow Model (Miles and Huberman (1984))</td>
<td>3.20</td>
</tr>
<tr>
<td>3.5(2)</td>
<td>Components of data analysis: Interactive Model (Miles and Huberman. (1984))</td>
<td>3.21</td>
</tr>
<tr>
<td>4.1</td>
<td>Pupil Nurse Training Programme</td>
<td>4.5</td>
</tr>
<tr>
<td>4.2</td>
<td>Student Nurse Training Programme</td>
<td>4.6</td>
</tr>
<tr>
<td>4.3</td>
<td>BSc in Nursing Studies Course. Distribution of Main Block of Clinical Experience</td>
<td>4.7</td>
</tr>
<tr>
<td>5.3(c)1</td>
<td>An empty ward converted into a studio to photograph the Stryker wedge turning frame</td>
<td>5.11</td>
</tr>
<tr>
<td>5.3(c)2</td>
<td>Detailed shot of the base of the Stryker wedge turning frame to illustrate the problem of reflection on the metal</td>
<td>5.11</td>
</tr>
<tr>
<td>5.3(c)3</td>
<td>Dulling spray had to be used on the hip prosthesis to reduce the shine on the metal</td>
<td>5.12</td>
</tr>
<tr>
<td>5.3(c)4</td>
<td>Example of some of the art work for the diagrams</td>
<td>5.12</td>
</tr>
<tr>
<td>5.4(1)</td>
<td>Display of common orthopaedic implants on a board in the Instructors' Room between the two wards</td>
<td>5.18</td>
</tr>
<tr>
<td>5.6(1)</td>
<td>The complete contents of one Learning Package together with the holdall used for their transportation</td>
<td>5.18</td>
</tr>
<tr>
<td>Article</td>
<td>Description</td>
<td></td>
</tr>
<tr>
<td>---------</td>
<td>-------------</td>
<td></td>
</tr>
<tr>
<td>5.5(1)</td>
<td>Each article is numbered to correlate with the various items on the display board</td>
<td></td>
</tr>
<tr>
<td>5.6(2)</td>
<td>Earphones are provided for use in the ward at night</td>
<td></td>
</tr>
<tr>
<td>5.6(3)</td>
<td>Additional Tape/Slide Programmes and Anatomical Models are stored in a cupboard in the Instructors' Room</td>
<td></td>
</tr>
<tr>
<td>7(A)1(xii)</td>
<td>Satisfaction/Dissatisfaction level in relation to nurse training/education before commencing the project (Pupil Nurses and University Students)</td>
<td></td>
</tr>
<tr>
<td>7(A)1(xiii)</td>
<td>Satisfaction/Dissatisfaction level in relation to nurse training/education before commencing the project</td>
<td></td>
</tr>
<tr>
<td>7(A)1(xiv)</td>
<td>Representation of the allocation of Student Nurses to the Wards and Departments Used During Their Trauma Experience</td>
<td></td>
</tr>
<tr>
<td>7(A)1(xv)</td>
<td>Representation of the allocation of Pupil Nurses to the Wards and Departments Used During Their Trauma Experience</td>
<td></td>
</tr>
<tr>
<td>7(A)1(xvi)</td>
<td>Representation of a six week allocation to the Orthopaedic Wards for one of the University Students</td>
<td></td>
</tr>
<tr>
<td>9.1</td>
<td>Model to Illustrate The Groups Who Were Involved At Each Stage of the Project</td>
<td></td>
</tr>
<tr>
<td>9.2</td>
<td>Model to Illustrate The Effect Of The Learning Package on the Teaching and Learning in the Clinical Areas</td>
<td></td>
</tr>
<tr>
<td>9.4</td>
<td>Model to Illustrate The Potential for Improving Patient Care by Gearing Nurse Education (in the form of a learning package) to the Specific Needs of the Patient</td>
<td></td>
</tr>
<tr>
<td>9.5</td>
<td>Model to Represent the Ideal Learning Environment for Student Nurses in the Clinical Areas Based on Recent Research Studies 1980-1987</td>
<td></td>
</tr>
</tbody>
</table>
CHAPTER 1: INTRODUCTION AND SUMMARY OF CHAPTERS

1.1 INTRODUCTION

"The effectiveness of nursing practice may depend upon the interest and enthusiasm of nurses for self-directed learning and for carrying out their own learning projects. It is a truism that learning can be done only by the learner - no one can learn for you. For this reason, we are all basically self-educated. In that regard, the future of self-directed learning seems assured."

Cooper (1982) p 39

The research described in this thesis concerns a study which investigated the circumstances surrounding the planning, production, implementation and evaluation of a scheme of self-directed learning (in the form of learning packages) for use by student and pupil nurses in the clinical areas. It was felt that such a scheme would offer one way of improving the integration of theory and practice in nurse education and contribute towards the current move to encourage the student to be more responsible for their own learning.

The following summary of chapters outlines the evolution of the study as it passed through its various stages.

1.2 SUMMARY OF CHAPTERS

Chapter Two. Identification of the Problem and Literature Reviews

This chapter opens by describing the current system of educating and training the general nurse in the United Kingdom. Several problem areas within this system are highlighted particularly those which concern the need for better integration of theory and practice in the clinical areas.
It is suggested that this problem could be lessened by introducing schemes of self-directed learning and the advantages of such schemes are specified. Arising from this suggestion eight research questions are posed which form the basis of this study.

The survey of the literature is divided into three sections. It starts by tracing the historical development of nurse training and education as it has affected the preparation of the registered general nurse (including those following a degree course), the enrolled nurse and teachers of nursing.

The middle section examines research projects relevant to teaching and learning in the clinical setting in nurse education. These include studies which consider what is "taught" and what is practised, those which highlight poor teaching and learning or relate to the specific teaching roles of ward staff and nurse teachers. Action research studies which have aimed to improve the relationship of theory to practice in the clinical areas are also discussed.

The final section of this review investigates the literature relating to the development and use of distance/individualised learning in both general and nursing education.

Chapter Three
Research Methodology. Approach, Methods and Techniques

This chapter opens by examining the various approaches which are available to the educational researcher. This is followed by an in-depth discussion on the use of the case study approach and the techniques of illuminative evaluation (Parlett and Hamilton, 1977) which are used in this study. A separate section is devoted to methods of data analysis and another to the particular problem of the teacher who is both the producer and the evaluator (researcher) of their own educational innovation.
Chapter Four
The Planning and Setting Up of the Project. 1981-1982

In this chapter a description is given of the negotiations and planning which took place to set up the project in two orthopaedic wards in a District General Hospital. The current methods of teaching and learning for students on these wards were investigated. In collaboration with the permanent clinical and teaching staff on these wards learning objectives were defined and opinions were sought concerning the introduction and choice of distance learning materials. The purchasing of ready made materials for the learning package are discussed together with the relevant budgetting. The chapter concludes with a discussion of the pilot study which was carried out using these ready made materials.

Chapter Five
Production of New Learning Materials. Putting the Package Together

In order to ensure that the learning materials which were used for this project were relevant and up to date it was found necessary to produce many of them locally. This chapter describes and discusses this process with particular reference to the tape/slide programmes and display boards which were made. Details are also included of the students' workbooks, the teachers' guide and the tests which were used.

Chapter Six
Implementation and Organisation of the Main Project. 1983-1984

A detailed description is given of the allocation of the completed learning package to the student and pupil nurses (including the University Students following a four year degree course in nursing) as they came to work on the orthopaedic ward. A discussion takes place of the methods used to monitor the various learning materials and to ascertain the attitudes and behaviour which they generated.
from the various groups involved i.e. the learners, the ward staff and the nurse teachers.

The strategy adopted for handing over the running of the project to local staff once the research data were collected is also included in this chapter.

Chapter Seven

Data Analysis from the Main Study. The Effect of Using Distance Learning Materials for Student and Pupil Nurses When They are Allocated to the Clinical Areas (Orthopaedic Wards)

In this chapter the findings from the main study are viewed and discussed from three main perspectives, namely, the student and pupil nurses, the qualified nursing staff on the wards and the nurse teachers.

The effect of using the learning package is discussed with regard to the students' motivation to learn, their study habits, their reactions to this type of learning and their confidence in their clinical work. The similarities and differences between the reactions and opinions of the three groups of learners who took part in the study are also highlighted.

A particular issue which arises from the data collected from the qualified nursing staff on the wards concerns the effect of this educational innovation on their role as teachers. The potential to use self-directed methods of learning for continuing and in-service education is also discussed.

The changing role of the nurse teacher responsible for implementing schemes of self-directed learning is emphasised in the third section of this chapter together with the need for adequate resources to support such schemes. Suggestions are made concerning other clinical areas where it was felt that similar projects would be particularly appropriate.
Chapter Eight
Review of the Study. Summary of the Findings

This chapter reviews the total study from the identification of the problem discussed in chapter one through to the data analysis just described in chapter seven. A summary of all the findings from each phase of the study is given including the planning, production, implementation and evaluation stages.

Chapter Nine
Conclusions, Implications and Recommendations

The final chapter of this thesis reaches certain conclusions arising from the research questions which were posed in chapter two. A short section is devoted to a discussion on the external validity (generalizability) of small qualitative studies such as this one which concern educational innovations.

The findings from this study are viewed alongside others in nurse education which have considered the learning environment for students in clinical areas. The thesis concludes with a set of recommendations for the implementation of the study's findings together with suggestions of further areas of research.
2.1 IDENTIFICATION OF THE PROBLEM

There are currently three possible routes to gain a qualification in basic general nursing in the United Kingdom. The shortest course of 110 weeks is for "pupil" nurses and prepares them to become Enrolled Nurses (E.N.(G)). This course is essentially practical in nature, its aim being to produce a competent bedside nurse. Incorporated within the course is a maximum of ten weeks theoretical work.

A longer course of 166 weeks prepares "student" nurses for the qualification of Registered General Nurse (R.G.N.) and includes a minimum of 30 weeks theoretical work. The R.G.N. is not only prepared to be a competent bedside nurse but also to accept wider responsibilities such as ward administration, teaching and supervision of students. Both student and pupil nurses are employees of the National Health Service and receive a salary (training allowance). Basic nurse training programmes for both student and pupil nurses are organised and supervised by Schools/Colleges of Nursing of which there are 219 in the United Kingdom (RCN April, 1985).

Twenty-two establishments of further/higher education have courses which prepare students to become Registered General Nurses in combination with study for a first degree. The content of these degree courses vary although, whether based in a university or polytechnic, the duration of all courses is four years. The students have normal undergraduate status and either receive a grant or are supported by their parents. Clinical experience is gained in local hospitals where students hold an honorary contract but are supernumary to the workforce. However the number of students who take these
courses is small. In 1984 the total intake to degree courses was 400 which represents just under 2% of the total number of students entering general nursing that year in Great Britain. (Goodwin and Bosanquet, 1986).

Table 2.1 gives details of the number of both student and pupil nurses entering basic general nurse training (initial entry or re-entry) in England between 1984 and 1986.

Table 2.1  Numbers entering basic nurse training in England (Initial entry or re-entry)

<table>
<thead>
<tr>
<th>1st April-31st March</th>
<th>1984/5</th>
<th>1985/6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Students</td>
<td></td>
<td></td>
</tr>
<tr>
<td>General Training</td>
<td>14157</td>
<td>13946</td>
</tr>
<tr>
<td>Pupils</td>
<td></td>
<td></td>
</tr>
<tr>
<td>General Training</td>
<td>5134</td>
<td>4426</td>
</tr>
</tbody>
</table>

ENB Annual Report April 1985-March 1986 (Appendix E)

Apart from this small number of student nurses who do combine their general nursing training with a degree the great majority of student and pupil nurses continue to train under an apprenticeship system. As well as receiving a training they also act as part of the workforce. In 1984 those in training in Great Britain contributed around 20% of the Nursing and Midwifery Staffs in hospitals (U.K.C.C. May, 1986).

Under this apprenticeship pattern of training student and pupil nurses receive short and intense periods of theoretical and practical instruction in a School of Nursing after which they are released to give service in the wards and departments of a hospital or the community which it serves. For several years now it has been advocated by the General Nursing Council and more recently the four National Boards (England, Scotland, Wales and N. Ireland) that training courses should follow a modular pattern. This would mean that theoretical input and clinical practice would be directly related. However according
"Students are processed through a fixed training programme in which the theoretical teaching sometimes takes the form of blocks of study unrelated to concurrent clinical experience. Only 15.6 per cent of general first level courses in England in 1984 followed the modular pattern within which teaching and clinical placements are more systematically related."

(p 26)

The frequent lack of integration of theory and practice for students and pupils during their clinical experience is a problem which is central to the need for the implementation of the research project which is described in this thesis.

Another problem which arises directly from the apprenticeship system is the pattern of multiple intakes of students to a school of nursing each year in order to ensure an even flow of "workers" to the wards. Many schools will take 3 or 4 intakes of new learners a year (ENB Handbook 1986/1987, 1987/1988) meaning that each module of the course has to be repeated the same number of times.

RCN (April, 1985, Judge) states:-

"The life of a tutor is marked by the restless movement of students through the classroom, by an obligation to repeat courses with monotonous regularity."

(p 10)

This same need for repetition is also experienced by those who teach and supervise students in the clinical setting where the most usual length of any one allocation is only two months.

The expansion of the essential experience which all student nurses must gain, since the E.E.C. Directives (1977), together with the general knowledge explosion surrounding the maintenance of health and care of the sick has also given rise to problems which will be addressed in this thesis. Under the E.E.C. Directives (1977) all student nurses must gain experience in general medicine, general surgery, obstetrics, paediatrics, psychiatry, community and geriatric nursing. This broadening of the curriculum has led to a greater need for teachers with specialist experience and
knowledge. In a small school of nursing this wide range of specialist skills is hard and often impossible to guarantee.

The philosophy behind the provision of nursing care is also at a time of change. A move from a task-orientated system aimed at "getting the work done" to a carefully assessed, planned and evaluated approach to care according to the individual needs of each patient is beginning to take place. Giving more individual care to the patient calls for helping the student to learn more as an individual and to adopt a more critical appreciation of their role. This will necessitate more small group discussion work with nurse teachers and other individual methods of learning.

At present there are two grades of Nurse Teacher (ENB, May 1985). These are the Clinical Teacher and the Nurse Tutor. Both of these grades will have had at least two-three years in a post of responsibility in the clinical field since their basic qualification as an RGN. Many however will have had much more experience and are likely to have gained further qualifications in one or more specialist areas of nursing care and may also have obtained a Diploma in Nursing from London University. An increasing number of nurse teachers have either obtained or are in the process of studying for a degree.

The role of the Clinical Nurse Teacher (who will have undertaken a six months course in the principles and practice of education) is to guide the student and to help them to learn while they are working in the clinical areas. Nurse Tutors, who have attended a one or two year full time course in educational studies are generally school rather than ward based and although the majority try hard to keep links with the clinical field this is very difficult with all the pressures of a busy educational department. These pressures also mean that Clinical Teachers are often called in from the wards to teach in the school thus further depleting the support which the pupil and student nurses get in the ward areas where they spend the majority of their time (Reid, 1985).
At present it is not a statutory requirement for the qualified nursing staff on training wards to have taken a course in the principles and practice of teaching. Many of them therefore neglect this part of their role. This is not only due to the pressures of their clinical responsibilities, which at times can be extremely intense, but arises from feelings of inadequacy and reluctance.

In the Briggs Report (1972) three thousand trainees and recently qualified nurses were asked to identify:—

"The one aspect of training which most needs improving."

The comments with the highest scores were:—

1) The quality of teaching on the wards 32%
2) The link between theory and practice 18%

(Table 15 para 219)

More recent work by Fretwell (1978), Ogier (1980) and Orton (1981) support these findings. The most recent report from the New University of Ulster (Reid 1983) noted that despite expressing positive attitudes towards nursing education, sisters and staff nurses did little ward teaching and there was an extensive loss of potential learning opportunities. It also confirmed that there was a dearth of teaching staff in the training wards.

RCN (April 1985 (Judge)) and the ENB (May 1985) also highlight these problems:—

"Arrangements which succeeded in genuinely integrating theory with practice should be marked by an easy and respectful relationship between educationists and practitioners. Of this there is often too little evidence. On the contrary, the educators are all too often regarded as having been distanced from the hurly-burly of the real world of wards, many ward sisters have neither the time nor the inclination to provide effective student supervision (and why, to be fair, should they?), students are demoralised by being given tasks for which they have not been prepared and being brusquely instructed to "forget all that stuff they told you in the training school." Clinical teachers are unevenly introduced as antidotes or mediators, and joint appointments are mooted. These efforts, often
heroic, address symptoms and not causes."

RCN (April, 1985 (Judge)) p 9

"The roles of practitioner and teacher are usually separated. Moreover, there are two teaching roles, the clinical teacher teaches practical nursing and the tutors teach theory. The result is an inefficient and often unhappy compromise. Clinical teachers have little authority concerning the nursing of patients because they are not practitioners; they have little authority in the school because they are not tutors - thus more than half of clinical teachers eventually take a second teaching qualification to be tutors. While some tutors do combine teaching and practice, many have difficulty in maintaining credibility with both colleagues and students because they do not practise. The actual practitioners have to teach without any preparation at all."

ENB Consultation Paper (1985) p 8

In 1984/85 a survey of Directors of Nurse Education (DNE's) was carried out at the suggestion of the Royal College of Nursing to examine the clinical involvement of nurse teachers. DNE's were asked how many hours per week they recommended their staff to spend teaching in a patient environment and how many hours were actually spent on this by staff in each teaching grade. Table 2.2 shows the average hours recommended and spent teaching in a patient environment for each of the teaching grades. The range of hours was very wide, but on average the difference between recommended and spent hours was not very great.

Table 2.2  Hours Per Week Recommended and Spent Teaching in a Patient Environment

<table>
<thead>
<tr>
<th></th>
<th>Average Recommended Hours</th>
<th>Range</th>
<th>Average Hours Spent</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>CNTs</td>
<td>28</td>
<td>5-38</td>
<td>26</td>
<td>3-48</td>
</tr>
<tr>
<td>Tutors</td>
<td>8</td>
<td>0-24</td>
<td>6</td>
<td>0-20</td>
</tr>
<tr>
<td>Senior Tutors</td>
<td>5</td>
<td>0-12</td>
<td>3</td>
<td>0-14</td>
</tr>
</tbody>
</table>

RCN Annexe of Research Studies for Commission on Nursing Education (1985) (p 124)
The following comment was made in relation to this table:

"The most frequent reasons given for the 'shortfall' in hours spent on wards were the other commitments of teaching staff and their workload, but DNE's also mentioned a lack of support by clinical staff for the presence of teaching staff on wards, the reluctance of teaching staff to spend time there (it was not previously expected of them), the time involved travelling, and the time needed by teaching staff studying for degrees. Particular shortages of staff caused by the existence of vacant posts, mental illness, sickness and maternity leave were also mentioned."

RCN Annexe (April, 1985) p 124

In summary the following problems associated with the current education and training of nurses have been identified:

1) Inadequate teaching and support from both the educational and clinical staff for student and pupil nurses while they are allocated to the clinical areas.

2) A lack of integration of theory and practice for student and pupil nurses while they are working in the clinical areas.

3) An expansion of the curriculum in general nurse training programmes which highlights the need for more teachers with specialist experience and knowledge.

4) A pattern of multiple intakes of students per year to schools of nursing leading to a need for frequent repetition of the same modules of teaching/learning both in the school of nursing and the clinical areas.

5) A changing philosophy in the approach to nursing care which calls for students to adopt a more critical approach to their practice and a need for them to become more responsible for their own learning.

It would be naive to imagine that any one teaching/learning method or educational strategy would solve all these problems. However schemes of self-directed learning together with the associated tutorial support for students when they are allocated to the clinical areas could help to alleviate many of them. Not only could such schemes provide a source of
information which would be available at all times whatever
the pressures of clinical work but they would guarantee that
the quality of this information would be high.

Self-directed education which is a form of what is
commonly called distance education, includes all those methods
in which most of the teaching is done through written, part
mechanical or electronic devices. Holmberg (1977) has
pointed out the advantages of such schemes:-

a) they are applicable to large numbers of students, which
   is particularly important when educational establishments are
   overburdened.

b) the quality of instruction can be raised by making the
   best use of specialist teachers, through preparation of their
   own materials.

c) study can take place during 'leisure' or 'off duty' times.
   Study pace, method and content can be varied which is a great
   advantage when dealing with students with broad educational
   backgrounds.

d) identical material can be provided in different forms
   eg print, slides, audio cassette, video-cassette to fit
   students' preferences.

e) students develop a greater responsibility for their
   own learning.

Although self-directed learning is already established
in nurse education in the United Kingdom, Marson, 1977;
the United States (Gentine, 1980; Hinthorne, 1980; Ackermann,
1982; Lange, 1982), and in Australia (Jackson,1981/1983) many
problems have not been tackled by this method, particularly
those in clinical areas, and very little research has been
carried out to evaluate its use.

As the final recommendation at the end of her thesis
on "Ward Teaching Skills" Marson (1981) states:-
"8) Last, but not least, serious consideration should be given to the use of training materials of all kinds, relevant and up to date text books, programmed texts, tapes and slides for example, in the service area. This would relieve sisters from the chore of importing factual information which can be acquired by means other than didactic teaching." (p 166)

My thesis describes the production, implementation, monitoring and evaluation of a scheme of self-directed learning packages for use by student and pupil nurses during the time they are allocated to the clinical areas.

The following research questions form the basis for my study:-

1) What will be the effect on the integration of theory and practice if learning objectives are defined and learning packages are designed to fulfil the specific needs of students and pupil nurses in each clinical area?

2) What will be the effect on the quality of instruction of making use of specialist teachers and clinicians to prepare the self-directed learning materials which are contained in the learning package?

3) What will be the effect on the ability of the permanent qualified staff in each area to assist students with learning if specific objectives are identified and facilities for attaining these objectives are available?

4) What will be the effect on the study habits of student and pupil nurses with varying educational backgrounds and abilities if they can learn at their own pace and at times convenient to them?

5) What will be the effect on the responsibility that student and pupil nurses show for their own education if learning is self-directed?

6) What will be the effect on meeting the preferences of individual students if learning materials are provided in different forms i.e. print, audio-cassette, display boards, models? What are the implications of such a strategy for the teacher?
7) What will be the consequences of testing the learners on the content of the learning package at the beginning and end of each clinical placement?

8) What will be the effect on patient care if nurse education (in the form of distance learning packages) is geared to the specific needs of patients in each clinical area?

Analysis of the data from this study will add to the body of knowledge relating to the use of self-directed learning materials by illustrating to what extent they can be integrated into the total sphere of learning which takes place when a student is allocated to work in the clinical areas.

2.2 LITERATURE REVIEW - NURSE TRAINING AND EDUCATION

(a) Historical Development

"Historical facts through illuminating those factors which led up to the present help to indicate possible ways of shaping the future."

Kratz (1980) p 215

"I cannot emphasize enough the relevance of an understanding of yesterday's problems for illumination of today's issues and concomitant potential for tomorrow's solutions. How much I have learned about nursing since I began studying its history."

Christy (1975) p 4

The aim of this section of the chapter is to highlight the main factors which have influenced the current state of the education and training of the general nurse in the United Kingdom.

What are the reasons for the majority of our nurses still training under an apprenticeship system? Why are there three separate courses leading to a qualification in general nursing, one of two years, one of three and one, which also includes a degree, in four? How did it come about that there are two grades of nurse teacher, one of whom teaches predominantly the theory of nursing and the other the practice?
To answer these questions some of the major events in the history of nursing education this century will need to be examined. These events will be discussed under the following headings:

i) The preparation and training of the Registered Nurse
ii) The preparation and training of the Enrolled Nurse
iii) The preparation and training of Teachers of Nursing
iv) Degree Courses for Nurses
v) The Current Situation and Summary.

2.2a(i) The Preparation and Training of the Registered Nurse

The establishment of the Nightingale Training School for Nursing at St. Thomas's Hospital in 1860 is accepted by nursing historians as the foundation of organised training for nurses both in this country and throughout the world.

"Before Nightingale reformed nursing and elevated it to a professional level, nursing was done mostly by volunteers with no training. There were some religious orders whose members gave humane care to the sick, but these Nursing Sisters had very little of what we now term training. Nurses, other than these religious sisters, were usually domestic servants with no training at all."

Schuyler (1977) p 37

Though accounts differ considerably about the quality of training which nurses received in the early days of the Nightingale Training School (Baly, 1984; Woodham-Smith, 1955) there is no dispute that this is where the apprenticeship system of training was born.

Baly (1984) suggests that the practice started in the Nightingale School where instruction given in the Nurses Home by the Home Sister was:

"...the beginning of that abiding dichotomy between what is taught in the classroom and what is practised in the wards." (p 57)

During the last quarter of the nineteenth century many other schools of nursing were established in the United
Kingdom based on the Nightingale pattern. Although the apprenticeship scheme was similar in other hospitals standards and lengths of training varied considerably.

By the turn of the century this lack of uniformity between different Schools of Nursing was voiced in the nursing press by many leading nurses of the time and was the main reason for the long battle for the registration of nurses which raged for over three decades. Accounts of this battle are well documented by nursing historians, (Woodham-Smith, 1955; Abel-Smith, 1960; Bowman, 1967; Bendall and Raybould, 1969).

Those in favour of registration were led by Mrs. Ethel Bedford Fenwick who as well as being an influential nurse appointed as Matron of St. Bartholomews Hospital at only 24, was also an ardent feminist and a friend of Mrs. Pankhurst.

However many leading nurses as well as doctors strongly opposed registration. Amongst these were Florence Nightingale and Lord Lister. It seems there is no doubt that the influence of two such famous and revered individuals was a strong contributing factor in the registration of nurses being shelved for so long by Parliament.

Two events which went in the favour of the pro-registrationists were the setting up of a Register of Teachers in 1899 and, more important, the Midwives Act of 1902 which introduced a register for midwives.

However it was not until the 23rd of December, 1919 that the Nurse Registration Act received the Royal Assent and was passed into law.

The war years had changed the status quo and altered many of the political attitudes towards women. By 1919 there was extensive public sympathy and gratitude for the hard work of the nurses during the war. More influential people were prepared to fight for their cause. Many nurses who had previously been against registration themselves changed their
views in an effort to prevent the multitude of untrained personnel who had joined the VAD's during the war becoming accepted as "nurses" when they were released from the armed forces. There was a great fear that there would not be enough jobs available for experienced nurses in the civilian hospitals.

Finally it was during this period that women had gained the vote. They could no longer be ignored. In a House of Lords Debate on May 27th 1919 the following comment was made by Earl Russell:—

"Women now have the vote; they have to be considered more than they used to be ..... women are more likely to get what they insist on having."

Abel-Smith (1960) p 93

Because there was a separate Ministry of Health for England and Wales, Northern Ireland and Scotland, Parliament had to pass three separate Registration Acts. By the terms of the Act of 1919 each country established a General Nursing Council.

The General Nursing Council for England and Wales set up a register consisting of separate parts for female general nurses, male general nurses, sick children's nurses and nurses who cared for the mentally ill. Bowman (1967) states:—

"These Acts of 1919 formed the most important measures for the protection of the public from the ignorant and untrained and also put the nursing profession for the first time upon a proper basis of training and qualification."

pp 57-58

From 1919 to 1983 it was the General Nursing Council for England and Wales who laid down the rules for all the issues relating to the selection, training, examination and registration of the general nurse. Over the years the qualifications needed to enter nursing became more stringent and training programmes gradually improved. More time was allocated to the theoretical component and essential clinical experience was expanded. The range of subjects which were studied and examined grew and a growing attention was paid to the use of a variety of educational methods.
During the 1970s the following changes were made in the preparation and training of the general nurse which have particular relevance to this study.

A new syllabus in 1969 saw the introduction of the four ward based practical assessments. The General Nursing Council stated:-

"The hospital is to assess the standard of practical skill and knowledge by a series of four ward based assessments carried out between the 12th month of training and entry to the written part of the examination."

GNC Circular 69/43

For the first time the nurses' skills, attitudes and knowledge were to be assessed in the environment in which they worked. For the first time the ward sisters were to be key figures in carrying out these assessments thus making them more aware and more responsible for the education and training of students.

All those involved as acting as assessors (Ward Sisters, Nursing Officers, Clinical Teachers and Nurse Tutors) attended courses on the 'Art of Examining'. For the Ward Sister and the Nursing Officer this was the first time that it had been compulsory for them to attend any course in connection with their role as nurse educators.

Another important educational change which was beginning to take place about the same time was the move from the block system to modules or units of learning. A closer integration of theory and practice was being aimed at by breaking up the training programme into smaller more structured units where concurrent teaching accompanied periods of clinical practice.

In many training schools however a move towards this model was slow and even today is far from being fully achieved. RCN (April, 1985, Judge) states:-

"Only 15.6 per cent of general first level courses in England in 1984 followed the modular pattern within which teaching and clinical placements are more systematically related."

p 26

In July, 1977 the General Nursing Council published
the document "A Statement of Education Policy" (GNC 77/19/A) which incorporated the changes which would have to be made in general nurse training as a result of the Nursing Directives of the EEC following Britain's entry into the European Economic Community on January 1st, 1973. Quinn, S. (1980) made the following comment on these Directives:-

"The theoretical content of the programme in the Nursing Directives should not cause any difficulty. It is the organisation of practical experience that produces the problems. All schools of nursing, large or small, urban or rural, will have to provide clinical experience in community care, geriatrics, psychiatric illness and maternity care in addition to medical and surgical nursing and child care. It is probably in the field of psychiatric experience that most difficulty will be experienced: extra travel or residential charges will be necessary where the only available experience is some distance from the school."

(p 90)

Certainly the EEC Directives did cause difficulties in many cases but The Nursing Qualifications (EEC Recognition) Order 1979 became law on January 1st, 1980 and all institutions training general nurses had to comply. This included the degree courses in nursing which by then were well established (see chapter 2.2a(iv).

Another significant inclusion in the 'GNC Educational Policy 1977' was the recommendation that specific aims and objectives should be formulated for each period of clinical experience. This was the first step in the move towards a system of continuous assessment. Progress in establishing effective aims and objectives for use in the clinical areas has unfortunately been slow and often ill understood. A handful of schemes of continuous assessment have been approved (Nightingale School of Nursing, Kings Health District, Mid-Surrey District School of Nursing) but the majority of schools still use the four ward based practical assessments.

An important factor which has strongly influenced the philosophy of nursing education in the United Kingdom from about the mid 70's is the concept of the Nursing Process and Individualised Patient Care. In fact the GNC Syllabus (1977, p.7) requested that nursing care should be taught and practised in the sequence of the nursing process.
King (1971), Orem (1971), Neuman (1974) and Riehl and Roy (1974) are all nurse theorists who have formulated models for nursing and designed nursing process tools based on these models. A great deal of work has been done both in continuing and basic nursing education to help nurses to understand and appreciate these theories and concepts. As a consequence substantial and welcome changes are beginning to take place in the practice of nursing in many areas both in the hospital and the community. However, in spite of all these moves, as with the implementation of continuous assessment, there is still a long way to go and much more work to be done.

Nevertheless Clarke (1986) is optimistic and sees a 'thinking' rather than a 'programmed' nurse as the most significant change that has taken place in the profession over the last 25 years.

Extensive and radical recommendations for a progressive system of nursing education based on a basic course of eighteen months for all entrants were made by the Briggs (1972) Committee. Although these recommendations were never taken up the call Briggs (1972) made for a single central body responsible for professional standards, education and discipline in nursing and midwifery in Great Britain led to the replacement of the multiplicity of training and examining bodies then in existence (GNC, PADNT, CMB, JBCNS, CETHV) with one central body, The United Kingdom Central Council for Nurses, Midwives and Health Visitors. The U.K.C.C. came into being on November 1st, 1980. Comments on its work and progress will be made in Chapter 2.2a(v) "The Current Situation".

I have purposefully left the question of student status and the separation of nursing education from the service structure until the end of this section. I feel to have commented on it chronologically on each occasion that it was discussed, debated or recommended would have been monotonous. A call for student status for nurses has echoed down the years since before the turn of the century and the educational
deficiencies inherent in an apprenticeship system have been highlighted in the majority of major reports on nursing:- Horder (1943); Wood (1947); Platt (1964).

Although Briggs (1972) did not recommend student status as such he did advocate that the learning environment should be much more firmly controlled and that training allowances should be channelled through the Colleges and not through the Service authorities.

"Students should not consider themselves, nor be considered as part of the ordinary labour force of the National Health Service."

Briggs (1972) p 106

Unfortunately these calls for student status and a move away from the apprenticeship system of training general nurses had not been answered as we moved into the present decade almost forty years after the Horder Report (1943).

Since the inception of the UKCC in 1980 there has been a surfeit of further consultation papers, project papers and a commission all addressing student status together with many other cogent and far reaching recommendations for the training and education of the general nurse. These reports and papers will be itemised and discussed in Chapter 2.2 a(v).

2.2a(ii) The Preparation and Training of the State Enrolled Nurse

The first suggestion that there should be a second grade of nurse was made at the annual meeting of the Royal College of Nursing in 1934. This was at a time when there was a great shortage of nurses. However it was not until a few months prior to the outbreak of the second world war in September, 1939 that the situation became critical and the government was forced to act.

According to Abel-Smith (1970), the Ministry of Health estimated early in 1939 that if war broke out there would be
a need for a total of around 70,000 trained nurses split between the armed forces, the first aid posts and the emergency hospitals planned for air raid casualties.

As there were only around 60,000 trained nurses working in Britain at this time it was decided to halve the numbers of trained staff in civilian hospitals and to fill the gap with untrained staff. In order to do this the Civil Nursing Reserve was formed. As a result 10,000 experienced nurses and the same number of untrained volunteers (described as "nursing auxiliaries") came forward so that when war was declared over 20,000 nurses were ready for action.

Not surprisingly a great deal of friction arose between the different grades of nurse. Abel-Smith (1970) states:-

"It was no easy task to fit the untrained recruits at one and the same time into the service world with its discipline, its ranks, its privileges, and the civilian world with its own special traditions of hierarchy and status. In addition the recruitment of nursing auxiliaries represented no small challenge to the professional nurses. And just as the recruitment of VAD in the first world war had led to an almost united demand for state registration, so, in the second war, the Civil Nursing Reserve led to a stronger demand for the recognition of a second grade nurse."

(p 162)

In response to this demand the Council of the Royal College of Nursing set up the "Nursing Reconstruction Committee" in 1942 under the chairmanship of the Rt. Hon. Lord Horder. By the autumn of the same year Section I of the Committee's Report - the report on the Assistant Nurse - was published. In its opening paragraphs the Committee states:-

"The Assistant Nurse of the future should become one of the most stable elements in our national nursing service - an integral part of the profession, and a person whose status offers the key to her senior partner, the State Registered Nurse. Moreover it is only when the services of the Assistant Nurse have been defined and regulated that matters affecting the State Registered Nurse can be brought into line - her student status assured when in training and her skill used to the best advantage when she is trained."

Horder (1942) (Section I p 8)
The recommendations of the Horder Report were closely followed by the Nurses Act of 1943. The General Nursing Council became responsible for keeping a Roll of Assistant Nurses, for designing suitable courses of training and for approving designated hospitals.

By 1946 a syllabus of training had been drawn up for Assistant Nurses, rules for training and enrolment were published and a year later 72 training schools had been approved as being suitable for training for the Roll. The course was to be for 2 years and was to include not less than one year spent in nursing the chronic sick (the area where there was the greatest shortage of nurses). The first examination was held in 1949.

However the growth in the numbers of those entering for training as Assistant Nurses was slow and disappointing. Neither the training nor the term "assistant" was popular. They were felt to be for an inferior grade of nurse recruited to work only with the chronic sick. Also it was still possible to earn more as an orderly than as an assistant nurse.

According to Abel-Smith (1960) the General Nursing Council introduced several changes in the training of the Assistant Nurse in 1950 as a result of pressure from the profession. The minimum training period was reduced from two years to one, followed by a further year of work under supervision to qualify for admission to the Roll. The pupil no longer had to spend one year nursing the chronic sick and any type of hospital was able to apply for approval as an assistant nurse training school. The following year improvements were made in the examinations system. Further pressures were exerted to remove the word "assistant" from the title and in 1961 The Nurses Amendment Act was passed and from this time the title State Enrolled Nurse was used. Salaries and conditions of work had also improved during the 50's and 60's.

In spite of all this the introduction of a second grade of trained nurse did not solve the problem of shortage. The quality of care from those who had been trained was undoubtedly better but there were still not enough nurses.
Hospitals were once more recruiting untrained staff to fill the gap.

According to the Ministry of Health Annual Report for 1958,

"The number of 'other nursing staff' (untrained) in the hospitals was 50 per cent larger than the number of enrolled assistant nurses."

(PP 282-3)

Nevertheless training for enrolled nurses continued during the sixties and seventies although their role when qualified has never been clearly defined which has caused a lot of dissatisfaction and injustice.

When discussing the training for the Roll the Platt Report (1964) stated:

"This grade of trained nurse has not been accorded the recognition which it deserves, although, where enrolled nurses have been introduced into the nursing team they have been valued members of it. Recruitment to training for enrolment has been disappointing and twenty years after the setting up of this training the total number of nurses enrolled by the General Nursing Council remains comparatively small."

(P 6)

Briggs (1972) gave a very astute description of the position of the enrolled nurse:

"Although enrolment and registration are distinct qualifications leading to very different career prospects within the profession, the actual level of work assigned to some enrolled nurses is often very similar to that assigned to some registered nurses in the staff nurse grade. We believe this can only lead to confusion and bitterness."

(P 57)

This confusion and other inconsistencies surrounding the role and status of the enrolled nurse were some of the first issues to be addressed by the newly established United Kingdom Central Council for Nursing, Midwifery and Health Visiting under its "Working Group 3 - Education and Training" (UKCC 1982). This paper and other issues relating to the State Enrolled Nurse will be discussed in Chapter 2.2a(v).
The Preparation and Training of Teachers of Nurses

For the students at the Nightingale School and other similar establishments set up during the last quarter of the nineteenth century their training was essentially practical. They learned on the job. What organised lectures they did have were given in their off-duty hours by the doctors with instruction on basic nursing from the matron or the home-sister. For all of those concerned the teaching of the student nurses was only a small part of their total role.

It was not until 1914 that Miss Alicia Lloyd Still, Matron of St. Thomas's, placed a "sister tutor" in charge of all instruction. Bowman (1967) and Bendall and Raybould (1969) describe the gradual growth of those designated to be "sister tutors", particularly in the London Hospitals. In 1918 a course designed to train sister tutors was set up in conjunction with King's College of Household and Science followed by a similar one at Bedford College in 1924.

It was also in 1924 that the Extra Mural Department of the University of London offered a Diploma in Nursing for those who wanted to fit themselves for further responsibility. A syllabus was set up in consultation with the College of Nursing and the first examination was held in 1927. For those who wanted to teach an additional paper was available in methods of teaching and elements of psychology. The Diploma in Nursing was one of the main qualifications taken by nurses entering teaching during the 30's and 40's.

In spite of these courses to prepare nurses for teaching it was not until the Nurses Act of 1943 that it was laid down that the General Nursing Council would keep a register of Sister Tutors who had passed the prescribed examinations.

However by 1947 only 313 tutors had applied for registration (Bendall and Raybould (1969)) and the Wood Report of the same year (1947) highlighted the poor quality of education in some schools. The report recommended that the
training of Sister Tutors should be reviewed to bring it into line with their new functions. It suggests that the main part of the training should be devoted to the study of modern educational methods:--

"Nurse training calls for all the devices - classroom techniques, visual aids*, practical demonstrations, experiments, case history study - which the well equipped teacher would employ."

Wood (1947) para 56 p 155

In light of my study it is interesting to note that the report includes a special footnote on visual aids:--

*"Special importance attaches to visual aids. These have a unique function as improved teaching media. By their judicious use appreciable economies could well be effected in the number of tutors required. A growing range of devices is coming into being which take over from the tutor some of her former functions and perform them better than she could herself by her own unaided efforts. The teacher becomes free to quicken the interest and imagination of the individual student. Rigidity of time and subject matter are replaced by an elasticity which takes full account of the variations in human ability, aptitude, interest and temperament displayed by the student material."

Wood (1947) Footnote p 56

Nevertheless it was 1951 before it became statutory for sister tutors to gain the qualification of the "Sister-Tutor's Diploma for the University of London". By this time courses of study were arranged by the Royal College of Nursing (The College was granted "Royal" charter in 1939 by King George VI), Queen Elizabeth College of the University of London and Battersea.

A shortage of qualified Sister Tutors continued through the 50's and into the 60's meaning that many of the tutorial staff in post were employed as "unqualified" tutors. Dutton (1968) suggests that in some schools as many as 70% of the tutorial staff were unqualified. Many tutors in the smaller schools were single handed or only had part-time assistance.
This overall shortage of tutors made it almost impossible for them to spend any time in the wards supervising or teaching the students during their interblock periods.

The Nuffield Report (1953) highlighted the small amount of supervision and training that student nurses got from the trained staff on the ward and emphasised the fact that 74% of the direct nursing care was contributed by students. Students who were mainly unsupervised were providing the majority of the nursing care on the wards.

Robertson (1980) records:-

"The Scottish Health Services Council Standing Nursing and Midwifery Advisory Committee set up a sub-committee to consider the implications of the Nuffield job analysis. This sub-committee reported in 1955, and recommended, amongst other things, that 'there should be introduced......an extension of the nurse tutor in the form of persons who would be responsible for teaching student nurses while they were working in the ward under the general direction of the ward sister. These persons might be known as clinical instructors'. The report went on to make it clear that these Clinical Instructors were to be employed to supplement - not replace - any teaching which the ward staff might do."

(p 2)

Gradually training schools started to introduce Clinical Instructors. As with the tutors they were drawn from the pool of experienced ward sisters. In 1958 the Royal College of Nursing in Edinburgh held the first organised course for Clinical Instructors. This was followed by a similar course at the RCN in London in 1962 known as the Clinical Teachers Course.

These six months full time courses approved by the RCN gradually spread until they were offered at ten cities throughout the country. The University of London offered a Clinical Teaching Option in the Diploma of Nursing which some students chose to take as an entrance to Clinical Teaching. Many others took the Further Education Teachers Certificate of the City and Guilds of London Institute (Course 730). The last two courses were usually offered by
colleges of further education on a day release basis making it possible for students to study without leaving their home areas.

Up to 1977 the General Nursing Council registered all nurses who successfully completed one of the above Clinical Teacher courses. After this date however they stipulated that those who studied for the City and Guilds Course (730) only must also hold at least Part A of the Diploma in Nursing of the University of London. This was to ensure that Clinical Teachers possessed a sound knowledge base in nursing subjects.

During the same period that the Clinical Teacher Courses were being established a move was made to introduce more courses for nurse tutors in the Technical Teachers Colleges at Bolton (1965), Wolverhampton (1971), Huddersfield and Garnett College, London (1974). The General Nursing Council were very aware that one of the reasons for a shortage of tutors was that all the available courses were in London making it impossible for many with home commitments in the Midlands and the North to attend.

Yet still the manpower shortage in schools of nursing continued and was commented upon in several important reports in the 70's.

The Report of the Nurse Tutor Working Party, DHSS (April 1970) highlighted the shortage of tutors and pointed out how difficult it is to assess the "optimum" number which is required either in the present or in the future due to the fact that neither nurse education nor the National Health Service is static. It emphasised the fact that although the present (1970) overall number of tutors, unqualified tutors and clinical teachers could provide a ratio of thirty students to one teacher (an improvement on previous years) teachers were still not equally distributed throughout the training schools and many schools were not of an economically viable size.
In 1972 the Briggs Report further stressed the need for more teachers particularly if its recommendations for a revised system of nurse education were adopted.

In July 1975 a discussion paper was issued by the General Nursing Council entitled "Teachers of Nursing 1975" (GNC, July 1975). The introductory paragraph opens with the following comment:-

"The Council has viewed with grave concern, that in spite of the increased number of training places available for nurse teachers, the number in practice within the National Health Service has not shown the expected growth rate and indeed the latest statistics in the later part of 1974 showed an accelerating loss."

(p 1)

This discussion paper offered suggestions for change in the preparation of all those who were concerned with teaching students as part of the GNC's total strategy to bring about a more fully integrated presentation of the syllabus in curricula based on a sequence of learning units related to each clinical experience (GNC circulars 77/19 and 78/6).

The responses to the discussion paper ("Teachers of Nursing 1975") were favourable and a further paper containing definite recommendations for change was approved by Council at its meeting in July, 1976 (GNC 78/38 and 78/38A).

The first two recommendations came as no surprise to the profession as they concerned the preparation of the trained staff who have to supervise and teach student nurses in the clinical areas:-

"1. There should be specific preparation for all trained staff who carry out a supervisory role and that Ward Sisters/Charge Nurses should receive further preparation before or soon after taking responsibility for a clinical area used for training.

2. That the number of trained staff in clinical situations used for training should be increased."

GNC, 78/38 A (p 1)
The report is quite prescriptive about ways in which staff should be prepared for their teaching and supervisory roles giving a detailed breakdown of preparation at all stages from the level of staff nurse to ward sister (pp 3-5). It is worth noting that more than ten years later this recommendation is still not statutory.

The third recommendation of "The Teachers of Nursing 1975" was however much more revolutionary, particularly bearing in mind that it was less than twenty years since the introduction of Clinical Teachers to the teaching team:

"3. That there should be one basic preparation for nurse teachers and that teachers of nursing should be able to function in both classroom and clinical situations."

GNC (78/38 A) p 1

There was certainly considerable evidence that all was not well in a system which trained two grades of teacher. The General Nursing Council enquiry prior to "The Teachers of Nursing 1976" (GNC 1978) had revealed that 33% of qualified Clinical Teachers subsequently qualified as Tutors. A wasteful process both in time and money. Both the GNC enquiry and an attitude survey of 956 registered teachers of nurses by House and Sims (1976) highlighted that the Clinical Teachers' lack of job satisfaction was considerably high.

Hinchliffe (1979) comments on the third recommendation of "Teachers of Nursing" (GNC 1978/38 A) concerning one grade of nurse teacher:--

"If the Working Party's recommendations are to be implemented to the advantage of nursing education, there must be sufficient teachers in the one grade who are capable of teaching both in the classroom and in the clinical areas. Providing that this condition is fulfilled, one can see nothing but good resulting from a move which underlines the integration of theoretical and practical teaching, but it requires the profession to change its concept of the role of the tutor."

(pp 240-41)
Once more, however, change was to be slow and in spite of its many recommendations, "Teachers of Nursing" (GNC 78/38) made it clear that no immediate action would be taken:-

"Although it is hoped that the proposed changes will, at some future date, be realised, it should be understood that it is unlikely that any early change in the registration and preparation of nurse teachers will occur, and secondment to the present courses will continue."

GNC (78/38) p 1

In July, 1979 the Royal Commission on the National Health Service highlighted the delay on the recommendations of the Briggs Committee to recruit more tutors. It also commented on the fact that the proposals in "Teachers of Nursing 1976" (GNC 78/38) were still under discussion with the DHSS. It makes the following statement:-

"This lack of progress underlines our concern at the apparent failure of the parties involved to recognise the need for urgent action in developing nursing education and increasing the numbers of nurse teachers."

HMSO, July 1979 (para 13.54 p 204)

The Royal Commission itself put forward a further recommendation which it felt would encourage more people to enter teaching. This was the concept of joint appointments between service and education which the Commission felt would enable the teacher to keep in touch with clinical work and to avoid a too theoretical "classroom" approach to teaching. A few centres, notably Manchester, did try this approach though it has not been adopted on an appreciable scale.

And so we entered the present decade with many uncertainties surrounding the role and preparation of those who teach nurses as well as their students and pupils.

Recent developments relating to nurse teachers will be discussed in Chapter 2.2a(v) "The Current Situation".
Degree Courses for Nurses

As early as 1900, Mrs Bedford Fenwick, founder of the International Council of Nurses prophesied that eventually Colleges of Nursing would be connected with Universities who would offer a degree in nursing.

The Americans established their first Chair of Nursing at Teachers College, Columbia as early as 1907 and had integrated a hospital school for nurses into the Medical Department of the University of Texas by 1910 which was rapidly followed by a succession of such courses across the country. However it was not until 1956 that a degree course for nurses was established in the United Kingdom. Even then the money used to set up the course ($100,000) was donated from the Rockefeller Foundation.

This first course, a BSc in Social Science together with an SRN, was established in the Department of Nursing Studies in the Faculty of Arts within the University of Edinburgh. Prospective students had to satisfy the normal university and faculty requirements as well as demonstrating that they possessed the necessary attributes to nurse. During the course, which lasted for five years, theory and practice were closely integrated. The degree finals were taken in four years and the nursing finals after five.

The Wood Report (1947) was the first government report to suggest that any part of the nurses' education should take place in a university. Although the comments made in this report referred particularly to "post graduate studies... in preparation for (nurses) taking up senior posts and for specialist studies" (page 100) the seeds for a move to the universities had been sown.

Following Edinburgh's lead Manchester University started a course leading to a Diploma in Community Nursing in 1959. Ten years later this was changed to the first course in the United Kingdom leading to a Bachelor of Nursing Degree.
The Platt Report (1964) had encouraged the setting up of this and similar courses and states:-

"The broader and deeper background of university education should be a means of providing leaders and teachers of high professional standing, capable of the objective and analytical approach required in the increasing numbers of positions in nursing administration, teaching and research at national and international level."

(page 26, para 103)

The Report goes on to state:-

"There is a widely held opinion that the study of nursing, interpreted in its widest sense, is a suitable subject for study at university level. The close collaboration reflected in courses already associated with universities is encouraging; it is hoped that the establishment of a degree course in nursing will not be long deferred."

(page 26, para 106)

During the 1970's courses leading to a qualification in nursing combined with a degree expanded rapidly. Chapman (1982) suggests that:-

"Some of this was due to the contraction in teacher training which resulted in some colleges seeing a degree in nursing as being a way in which to maintain student numbers."

(pp 174-175)

Perhaps not a reason that we as a profession would wish to advocate.

By the beginning of the 1979 academic year there were nine courses leading to a degree in nursing, nursing science or nursing studies in universities and four in polytechnics. Three other courses led to a degree in a specific discipline (for example Social Administration or Economics) with nursing.

In Scotland there were also two courses in technical colleges and one in a college of education. The statutory qualification of SRN was given on successful completion of all these courses.
As well as these courses combining with general nursing there was one university in England which centred on care of the mentally ill leading to RMN qualification and one which centred on the care of the mentally subnormal leading to RMNS. In Scotland one university offered a course which provided the option of obtaining registration on either the general, mental or mental subnormality registers (Chapman 1982).

By 1984 four more establishments of higher education were offering degrees in nursing making a current total of twenty-two in the United Kingdom with 400 students being admitted to such courses each year (Goodwin and Bosanquet (1986)).

As well as those nurses who study for a wide range of subjects with the Open University or obtain grants to read for a non-nursing degree another source of nurse graduates is from courses designed for those who are already registered to read for a degree in nursing. The first of these courses started in 1979 when the Department in Nursing Studies at the Welsh National School of Medicine took its first group of SRN's to read for a three year degree in Nursing. In 1980 Leeds Polytechnic commenced a four year part-time course which was followed in 1981 by a similar course at the North East Surrey College of Technology.

Neither RCN (1985, Judge), ENB (1985) nor UKCC (1986) make any significant recommendations on the future of basic degree courses in nursing. It would appear unlikely therefore that the numbers entering nursing in this way will grow significantly over the next few years.

However it seems we are on the brink of the greatest changes this century regarding the education of the general nurse via courses other than a degree. Whatever the outcome of the current debate it will undoubtedly have repercussions for nurses who do follow degree programmes.
With the establishment of many Chairs of Nursing (Edinburgh, Manchester, London, Surrey and Ulster) and one in Nursing Education (Cardiff) and with the growth of a body of nursing knowledge based on research it is hoped that the profession as a whole will look more to the Universities for help and advice.

It is hoped that the Universities will open their doors even wider to allow nurses to enter at all stages of their career. It is hoped that a growing understanding will emerge from both directions which will improve standards of nursing care and enhance the status of nursing as a profession.

2.2a(v) The Current Situation

"At the eleventh hour on the final day of the Labour Government in 1979 the Nurses, Midwives and Health Visitors Act 1979 received Royal Assent."

First Annual Report of the UKCC (1983-4) p 7

As a result of this Act the United Kingdom Central Council for Nurses, Midwives and Health Visitors was established on November 1st, 1980. The UKCC assumed its full functions on July 1st, 1983. It was during this period, in the Spring of 1981 that I started work on this research project. In the fifth and final section of my literature review on the historical development of the training and education of nurses I propose to pull together the strands which I have described in the first four sections, highlighting the most important developments which have occurred in all these areas while I have been carrying out my study.

Under the UKCC several working groups were set up to look at the various problems facing the profession. Working Group 3 was concerned with the development of Nurse Education. The first Consultation paper which it published in January 1982 made proposals for a single professional register:-
"The present position where there are two types of nurse, each with a statutory qualification has led to confusion both in the minds of practitioners and of the general public. But the group is anxious to emphasise that its recommendations are quite without prejudice to existing enrolled nurses, many of whom have been unfairly placed in positions for which they have had inadequate preparation. The proposals for a Single Professional Register ensure that existing nurses holding statutory qualifications would be enabled to continue to practise."


The paper goes on to say that each National Board should make provision for special conversion courses to be made available for an enrolled nurse who wishes to proceed to Registration. However those who wished to continue at enrolled nurse level should be permitted to do so.

Although this was only a Consultation Document many schools regarded the contents as policy or felt that it was immoral to train people for a role that would not exist in the future and so started to reduce the numbers of pupil nurses they accepted for enrolled nurse training. Many schools stopped training for the roll completely. Figure 2.3 illustrates the fall in the numbers of pupil nurses entering training between 1976 and 1984.

Figure 2.3 Intake of pupil nurses for the general register. Years ending March 31st England and Wales

<table>
<thead>
<tr>
<th></th>
<th>1976</th>
<th>1980</th>
<th>1984</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pupil Nurses</td>
<td>12,073</td>
<td>10,316</td>
<td>5,993</td>
</tr>
</tbody>
</table>

Source English National Board
(RCN, Annexe of Research Studies (Judge) 1985, p 83)
As might be imagined the position of the enrolled nurse became and continues to be even more uncertain than it was in the previous decade. Heated debate and a great deal of anxiety surrounds the whole question of the enrolled nurse's future. Several other important documents and publications have supported the concept of a single grade of nurse (RCN, March 1983 (Tiffany); RCN, January 1984; ENB Circular '84/09; RCN (April, 1985); ENB; May 1985; UKCC, May 1986). Most of them have made mention of an assistant level who would have some definite preparation for the role but who would be outside the nursing structure.

In April 1985 the UKCC approved a one year conversion course for general enrolled nurses who wished and who were academically able to progress to first level nurses. However to date these have only been organised in a very few centres (ENB April 1984–March 1985). A great deal of pressure is being put on the UKCC for an early decision on the future of the enrolled nurse. UKCC (September 1985) states:

"The Enrolled Nurse must either be the subject of thorough-going reform or it must be abolished."

(p. 13)

Either way the implications for both nurse educationalists and managers are great. On the one hand there would be the need for the planning and implementation of radically new courses of basic training once the exact role of the second level nurse had been decided and on the other conversion courses must be organised for those enrolled nurses who wish to progress to first level.

The continual cry for student status for the Registered Nurse has risen to full crescendo over the past few years with nearly every major report giving it support in some guise or other (RCN, 1981 (Darwin); UKCC (January 1982); RCN, March 1983 (Tiffany); RCN, January 1984 (Kershaw); RCN (April 1985); ENB (May 1985); UKCC (May, 1986)). The major debate centres around the type of course which is necessary to prepare the nurse of the future to meet the changing health needs of
society. Proposed models range from those similar to the ENB recommendations of 1985 which are geared towards specialism from the beginning to the preparation of the generic nurse who can practise at a specified level of competence across a wide range of areas and settings. The Briggs proposals of 1972 are one variant of the second model. A third proposal which comes between these two allows students to choose the speciality approximately midway through the programme after following a common core foundation course. RCN (April 1985) and UKCC (1986) are based on the third example.

Many people fear that a change from the present system to one where students are supernumerary would have grave manpower implications. However others are more optimistic and agree with the following statement in the ENB Consultation Paper (1985):-

"The amount of service given now by student nurses will be reduced; however the difficulties and frustrations experienced now by institutional managers may well be lessened and ward staffing will certainly become more stable."

ENB (May, 1985) (p 19)

In June, 1983 the General Nursing Council issued "A statement of policy relating to basic nursing education in general and sick children's nursing" (GNC 83/13 A). This document is to be used for curriculum development in conjunction with Educational Policy 1977 (GNC 77/19/A) which is to remain the basis for the syllabus together with the Statement of Nursing Competences included in the Nurses, Midwives and Health Visitors Rules (HMSO, 1983). The 1983 Educational Policy, lays much more emphasis on the curriculum being developed by all those involved in the students' learning process:-

The teaching staff, the learners and the staff of the selected areas within the hospital and community where the learner gains experience must all be involved in translating the syllabus for the course into a realistic curriculum which will form the basis of teaching, learning and assessment within each area."
The document (GNC 83/13 A) is also very specific about the characteristics of a satisfactory setting for learning (page 4) and highlights the need for providing adequate teaching and supervision by appropriately qualified staff at every stage of the course. It stresses the need for ongoing scrutiny and change of the curriculum and the need to reflect the changing needs of society.

Since the publication of the Educational Policy 1983 there has been an upsurge in curriculum planning in all Schools of Nursing. Planning groups have been formed on a much broader basis with an increase in the number of members from the clinical areas including the community. Many schools have made senior appointments for a tutor specially qualified in curriculum development, often at higher degree level, to co-ordinate and organise this work.

In November 1984 the English National Board sent out a letter to training schools suggesting a change in the format of the Final State Examination for those undergoing basic general nurse training. It stated that due to the great amount of dissatisfaction which had been expressed relating to the present examination system and following a study of examination data over a 20 year period, a project officer had been recruited and a steering group set up to investigate the whole system of examinations. As a result of this investigation and after receiving comments from the profession the ENB made the following announcement in March 1985:-

"Since the early 1970's, Schools of Nursing have been responsible for examining practical skills and attitudes.

THE ENGLISH NATIONAL BOARD HAS NOW AGREED THAT ASSESSMENT OF THEORETICAL KNOWLEDGE SHALL ALSO BE DEVOLVED TO SCHOOLS OF NURSING UNDER EXAMINATION PROCEDURES ARRANGED BY THE BOARD."

ENB March 1985, ERDB (p 1)

Each school was required to establish Boards of Examiners consisting of teachers from the School concerned, a nurse practitioner from the service staff within the District
Health Authority and an external examiner who should be a qualified Nurse Teacher from another Health District. The Board would be responsible for setting and marking the devolved final written examination. The first examinations held under this system started in July, 1986.

For the time being the four ward-based practical tests will continue to form Part I of the examination apart from schools who already practise continuous assessment. In the long term however the ENB sees the assessment of knowledge, skills and attitudes and the measurement of competency as a continuing process. It is anticipated that schemes of individualised learning such as the one which forms the centre of my research would fit well into this process of continuous assessment.

The increased activity concerned with curriculum development together with the work associated with the devolved final written examination has led to an enormous amount of extra work for nurse teachers up and down the country. The continuing situation of the shortage of nurse teachers, which was discussed in Chapter 2.2 a(ii) has not helped the situation, nor has the fact that many teachers are studying part-time to gain a degree.

Since the beginning of the decade many reports and publications have stressed the seriousness of the continued shortage of nurse teachers, particularly in the basic grades (Wells, 1981; RCN, March 1983 (Chapman); RCN, March 1983 (Greenwood); RCN, January 1984). The maldistribution of nurse tutors throughout the country which was highlighted in earlier reports (DHSS, April 1970; Briggs 1972) was confirmed by RCN, April 1985 (Judge).

The concept of a single grade of teacher first recommended by the General Nursing Council in 1976 (see Chapter 2.2a(iii)) has been confirmed by all the major reports and publications this decade (RCN, 1981 (Darwin); RCN, 1983 (Chapman); RCN, 1983 (Tiffany); RCN, 1984 (Kershaw); RCN, April 1985 (Judge) and ENB (May 1985)). It was not however until January 1986
that the ENB announced that Clinical Teacher Courses were to be discontinued at the end of 1987. Although there has been a move to prepare those recently undergoing Tutors Courses to teach both in the clinical areas as well as the classroom this has not been consistent throughout the country.

The majority of schools have encouraged their tutors to spend more of their time in the clinical areas and many new appointments have clinical work specified in the job description. As yet however no clinical updating courses have been set up for tutors who have been away from the wards for some years.

A similar situation exists as regards improving the preparation of ward sisters and other qualified staff for their role of teaching and supervising students during their clinical experience. Once again the need for this preparation has been emphasised in a succession of publications and reports since 1980 (UKCC (1982), RCN, 1983 (Chapman); RCN, 1983 (Tiffany); GNC (83/13); RCN, 1984 (Kershaw); RCN, 1984 (NI); Bryant, 1985). But as yet no positive action has been taken by the statutory bodies to ensure that there is a national move to improve the situation.

The combination of the lack of courses to prepare ward sisters to teach and tutors to update their clinical skills together with the run down of courses for clinical teachers would appear to be creating an even worse situation for the support of student nurses in the clinical areas than in previous years.

There has been an increasingly louder cry in recent years for all nurse teachers to be graduates (RCN, 1983 (Chapman); RCN (April 1985); and UKCC (May 1986)) and over the past few years many nurse teachers have embarked on a course of study leading to either a first or a higher degree. As a result almost half nurse teachers are now graduates or in the process of becoming so, as illustrated in Figure 2.4.

This is an encouraging move although it is debatable whether the subjects which are being studied are those which will be of the greatest benefit to the profession. There is
a suggestion that too many tutors are concentrating on educational studies and not enough on the hard and social sciences or nursing studies itself.

Figure 2.4 Nurse Teachers by Graduate Status

<table>
<thead>
<tr>
<th>Category</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st DEGREE</td>
<td>59.6%</td>
</tr>
<tr>
<td>TAKING 1st DEGREE</td>
<td>19.1%</td>
</tr>
<tr>
<td>TAKING HGR. DEGREE</td>
<td>1.7%</td>
</tr>
<tr>
<td>HIGHER DEGREE</td>
<td>17.6%</td>
</tr>
<tr>
<td>NON GRADUATE</td>
<td>2.0%</td>
</tr>
</tbody>
</table>

From: ENB (April 1984 - March 1985) (p XXIV)

Not a lot has been said in recent years on the situation regarding students entering the profession by way of a degree combined with an RGN qualification. The current number of courses remains reasonably static. The only report that suggests that this situation should change is RCN (April, 1985) under the summary of statement of key issues enquiry:-
"12) Some respondents were ambivalent about increasing undergraduate degree places in nursing, but on balance opinion favoured such a development."

RCN (April 1985 (Judge)) p 87

I draw this section on the development of the education and training of nurses to a close at one of the most expectant phases of its history. As the profession awaits the government's decision on "Project 2000" (UKCC, 1986) hopes are high that its recommendations will be accepted and that the preparation of the nurse of the future will be based on sound educational principles.

For those who find it difficult to see the way out of the maze of reports, recommendations, statutory instruments and financial restraints which have surrounded nursing education over the years the following words may prove encouraging:

"It is a lesson which all history teaches wise men, to put trust in ideas, and not in circumstances."

Ralph Waldo Emerson 1803-1882
(From "Miscellaneies, War")

2.2(b) Research Relevant to Teaching and Learning in the Clinical Setting. Integration of Theory and Practice

"If there is one issue, one problem, one cause for concern which is truly international in the nursing world, it is that of integration of theory and practice."

Alexander (in Henderson (1982)) p 56

The aim of this section of the chapter is to examine and discuss specific research projects which have added to the body of knowledge concerning the teaching and learning of student nurses in the clinical setting. Particular emphasis will be given to those studies which highlight poor integration of theory and practice as well as those which suggest solutions
as to how it may be improved. The studies will be examined under the following headings:-

I) What is "taught" and what is "practised".

II) Studies which highlight poor teaching and learning in the ward areas.

III) Studies which relate to the teaching role of:-
   a) The Ward Sister
   b) The Nursing Officer/Clinical Nurse Specialist
   c) The Clinical Teacher/Nurse Tutor

IV) Action Research which has aimed at improving the relationship between theory and practice in the Clinical Areas

2.2b (I) What is "taught" and what is "practised"

In order to establish that a problem does in fact exist I shall first of all consider studies which highlight that there are definite and sometimes dangerous differences between what is "taught" in the school of nursing and what is subsequently practised in the clinical areas.

Hunt (1974) carried out a quantitative study which looked at "The teaching and practice of surgical dressings in three hospitals". Her results show that every nurse she observed (64) deviated to some extent from the taught procedure and that most nurses deviated quite considerably. Although her data did not illuminate the cause of these deviations she did suggest in her conclusions that a change in teaching method may help to prevent them.

A study by Gott (1982) would tend to confirm this suggestion. In a study which investigated the theories of learning and teaching in nursing she gives examples of the teaching of practical nursing skills by the use of set procedures. These were sometimes taught in isolation from theories and principles. She cites evidence to suggest that teaching of general principles is more influential on skills learning (thus performance) than the teaching of procedure by rote (Welford 1958).
Gott also stresses that the majority of learners in her study did not have the opportunity to practise all the practical nursing skills taught.

"For many, their next encounter with the skill was in the ward, when they were expected to perform it."

(p. 44)

This situation was observed by Gott (1982) to cause a great deal of anxiety and worry for the new student.

Gott (1982) also highlights the point that although students in her study were warned that ward practices were not always the same as the school, they were rarely shown an alternative and were told that the school way was "right". It is suggested that the "reality shock" (Kramer 1974) that this causes could be reduced if nurse teachers conveyed their knowledge of the students' dilemma to them and also spent time working alongside them in the ward. Gott goes on to suggest:

"It is also possible that this strategy would enhance or at least maintain, teacher value for the learner."

(From Davis, B.D. 1983 b) (p 188)

An interesting and much quoted study by Bendall (1975) investigated the theory, practice gap from another angle. This quite extensive project using a variety of research tools and researchers looked at the correlation between what a student writes in a text or examination ("recall of learning", "verbal description") and how she actually performs in the real situation ("application of learning"). In a sample of 321 learner nurses from 19 different hospitals only 27% showed a correlation between what they wrote or recalled and how they actually behaved in practice. In as many as 63% of the students their written answers were no guide at all to their practical performance. However a difference was demonstrated between schools of nursing in that there were more students who "correlated" in schools where tutors were "realistic" as opposed to "idealistic". This last finding
had an influence on my own study by confirming my feelings that whenever possible the photographs which were to be included in the learning packages should be taken on the wards using real patients rather than in a studio or the school of nursing.

Hutchings (1981) makes what Reid (1985) considers to be quite valid criticisms of Bendall's (1975) work in relation to the statistical analysis, stating that it was not only technically faulty but inappropriate to the hypothesis she wished to test (i.e. the relationship between recall and application in trainee nurses). However Reid (1985), who herself suggests that Hutchings' solutions to Bendall's errors are also inadequate in testing the underlying model, points out that:

"Inadequate statistical analysis does not necessarily lead to wrong answers, so the conclusions of Bendall's study could well stand."

(p 29)

From the point of view of my own study I feel that Bendall's findings are important as they highlight an aspect of the theory/practice dichotomy which is not addressed elsewhere and therefore offer another facet to the body of available knowledge.

A study by Birch (1975) investigated areas of anxiety and conflict in nurse education in student and pupil nurses who had just started their training. The sample consisted of 51 pupils and 85 students from 8 different hospitals. They were followed up for the first 18 months of their training. All those who left during that period (22% of the students and 39% of the pupils) were contacted and either interviewed or given a questionnaire. Table 2.5 gives the five most common contributory reasons for withdrawal of candidates.
Table 2.5 Reasons for Discontent Mentioned by Withdrawing Candidates

<table>
<thead>
<tr>
<th>Contributory Reasons for Withdrawal</th>
<th>% of Candidates Mentioning</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) Poor Staff Relationships</td>
<td>98.00</td>
</tr>
<tr>
<td>2) Off Duty - Notification Late etc.</td>
<td>53.51</td>
</tr>
<tr>
<td>3) Lack of Ward Teaching</td>
<td>38.08</td>
</tr>
<tr>
<td>4) Differences in Ward/Classroom Practice</td>
<td>38.08</td>
</tr>
<tr>
<td>5) Lack of Supervision</td>
<td>32.14</td>
</tr>
</tbody>
</table>

Birch (1975) p 55

Apart from the second reason all the above are relevant to my study with the fourth one being particularly pertinent to this particular section. It is of relevance to note that Birch (1975) makes the following statement in relation to the learners in his sample who did not leave during the course of his study;-

"The perennial problem of procedures differing in classroom and ward was expressed by almost every learner. Conflict in this area appeared to be one of the greatest undermining influences in training."

(p 54)

This last point was confirmed in a study by Dodd (1973) when students were asked to evaluate the school of nursing. The majority of students in the sample also considered that much of the information that they were given in the school of nursing was "not up to date".

These findings confirm those of an earlier study by Dutton (1968) who investigated "The factors affecting the recruitment of nurse tutors". In the summary of the questionnaires used in that study one of the chief factors
given as being a deterrent to becoming a nurse tutor -

"is the impression held by many sisters that what is taught in the training school is insufficiently related to what goes on in the ward. In addition many of them appear to feel that, far from the training school giving a lead in introducing new knowledge and new techniques, what is taught there is out of date."

(p. 42)

Similar findings have emerged from studies related to psychiatric nursing. Powell (1982) in a small qualitative research project using semi-structured interviews looked at student psychiatric nurses' views of their preparation and training. The results include several examples of discrepancies between what was taught and what was practised:

"Once on the wards, all the trainees found considerable differences between how things were taught and how they were practised, but tended to qualify their remarks:

'Of course it was expected.'

'Everyone knows that.'

'We were warned about that in school'."

(p. 61)

2.2 b (II) Studies which highlight poor teaching and learning on the ward areas

In Section 2.2(a) of this chapter many reports and publications were cited which stressed the problems inherent in an apprenticeship type of training/education for nurses (Horder (1943); Wood (1947); Platt (1964); Briggs (1972); Fretwell (1978); Ogier (1980); Orton (1981); Reid (1983); RCN (April 1985); ENB (1985)). In this section of the chapter I shall give more detailed information on those studies which were carried out primarily as research projects and which highlight poor teaching and lost learning opportunities for students while they were working in the clinical areas. I shall also
include details of other research projects which address this problem which I have not mentioned in previous sections.

An early study by Revans (1964) looked at the process of communication within the hospital as a whole and how this related to the morale of both the staff and the patients. A substantial part of this study centres on the world of the student nurse and therefore inevitably comments on the circumstances which surround her training and education. A systematic study of attitudes was carried out using non-directive interviews and questionnaires. The following was said in a summary of the results relating to nurse training:—

"Liaison between the tutorial and ward staff was said by the staff of the training school to be poor: practical instruction was not given on the wards, nor were the students brought into contact with the patients when being taught something of the diagnosis and treatment of ailments."

(p 48)

A number of detailed and sometimes alarming examples are given concerning the lack of instruction and authoritarian and domineering attitudes which were shown towards the students while they were working on the wards. (pp 50-51)

Revans points out that the hospital which was studied was not "typical" and when the same hospital was re-visited a few years later "its general tone had greatly improved". However many similar examples relating to poor teaching and learning for student nurses in clinical areas are still found in studies carried out ten to twenty years later.

Lelean (1973) looked at the interaction and system of communication between the ward sister and nurses on female medical wards and which forces may affect such a system. The ward sister's patterns of communication were observed together with all the nursing care which was given. A team of four non-participant nurse observers were used. All written and verbal communications which the sister made were compared with the actual patient care which was given.
One of the most enlightening results of Lelean's study as regards the teaching/learning of the student nurses is that the first year students were not spoken to by the sister on half of the days possible, nor did the student nurse speak to the sister on 46% of the days possible.

As Lelean points out:

"These are thought-provoking findings, because surely these nurses are the very ones who need support and encouragement from the sisters if they are to settle down and be able to work as effective members of the ward team."

(p 103)

This study demonstrates very clearly how fragmented the ward sister's working time becomes due to the many interruptions she has caused by all the various communications she deals with. Lelean (1973) comments:

"One cannot help surmising that perhaps this "interruption factor" is one of the major contributory causes of the sister being unable to fulfil her teaching and supervisory roles. If this is the case, then one should either acknowledge that this can no longer be one of her functions and arrange adequate practical training and supervision for student nurses, or else recognize the work so that time can be created for these very important functions."

(p 116)

Even when no other "teaching" takes place on a ward it is generally accepted that the giving of the ward report is a "learning" experience for students as well as a means of passing on information about patient care from one "shift" of nursing staff to the next. However Lelean's (1973) study shows that on only two of the wards which she observed was the ward report used:

"as an opportunity for teaching the nurses"

(p 115)

and this was only intermittently. On all the observed wards the giving of the ward report was a one way process (from the sister to the nurses) with no opportunities being given for discussion or questions. Birch (1975) comments
that 17.85% of the students in his study who withdraw from training gave -

"Inadequate ward reports " (p 55)

as one of their reasons for leaving.

Lelean (1973) makes the following comment on the giving of the ward report:--

"If this time could be used for the free flow of information, with instruction and knowledge in all directions, it could be developed into a period of mutual learning for sisters and nurses alike."

(p 115)

Three studies which concentrate on the role and preparation of the psychiatric nurse (Towell (1975), Cormack (1976), Powell (1982)) all show evidence of poor teaching and learning in the clinical areas.

Towell (1975), who carried out a sociological analysis of modern psychiatric nursing practice, examined nurses, roles and the nature of their relationship with patients. His field studies were conducted on admission, geriatric and therapeutic community wards. When commenting on "Roles and Training of Psychiatric Nurses" in his conclusion Towell states:--

"There was a general lack of explicit attention to training on the wards, reflecting deficiencies in the common conceptions of training among hospital staff which tended to focus on what nurses were taught rather than what they learnt. As a consequence, even among staff primarily responsible for nurse training, there was limited appreciation of the significance of the apprenticeship pattern of training for what nurses actually learned and little concern with how experimental learning might have been facilitated."

(pp 204-205)

Cormack (1976) confirmed Towell's findings relating to lack of ward teaching in a descriptive study of the work of the charge nurse in acute admission wards of psychiatric hospitals:-
"From observation it must be concluded that nurse teaching was a rare event; when it did occur it related mainly to administrative procedures and physical nursing."

Cormack (1976) (p 48)

It is interesting to note that charge nurses were never observed to be in a formal learning situation themselves nor were they ever seen to be counselled by senior staff or to give counsel to junior staff. For the purpose of his study Cormack (1976) defined counselling as -

"discussing with individuals or staff groups their work performance or progress, also, discussion of particular problems which staff may have, for example, in relation to other staff or patients."

ibid (p 48)

Powell (1982) cited both Towell (1975) and Cormack (1976) in his literature review and confirmed their findings relating to poor teaching on the wards. He makes the following statements in relation to "Teaching on the Wards":-

"The respondents dismissed this aspect of training as being virtually non-existent. Some expressed surprise that more ward teaching was not attempted: -

'We were led to believe that we would be attending clinical meetings - but I've not seen any evidence to suggest that they even take place.'

The limited teaching which did take place, consisted largely of repeating, in a lecture form, material already covered in school. Repeating typical signs and symptoms of disease was not considered relevant without some attempt to apply these to patients being nursed on the wards. Learning consisted of 'picking things up as you go along'."

Powell (1982) (pp 69-70)

Fretwell (1978) heralded a group of studies which have particular relevance to my own as they are all centred on the teaching and learning of the student nurse in the ward situation in general hospitals. The following list of their titles indicates their relevance to my own study as well as their relationship to each other.
1) Fretwell, J.E. (1978), "Socialisation of Nurses: Teaching and Learning in Hospital Wards".

2) Orton, H.D. (1979), "Ward Learning Climate and Student Nurse Response".

3) Ogier, M.E. (1980), "The Effect of Ward Sisters' Management Style on Nurse Learners".


5) Lewin, D.C. and Leach, J. (1982), "Factors Influencing the Quality of Wards as Learning Environments for Student Nurses".


In spite of using a wide variety of methods in different hospital settings these studies show very close correlation in the evidence they have produced relating to the specific characteristics of wards where the teaching and learning was either "good" or "poor". Table 2.6 gives the terminology which was used in these studies to indicate the two categories.
Table to illustrate the different terms which were used in a variety of studies which examined the characteristics which distinguish between wards where teaching and learning is "good" and wards where it is "poor".

These studies will now be described and discussed in more detail under the following headings:

a) Wards where teaching and learning were "good".

Fretwell (1978) focused her study to identify a "good learning environment" on ward sisters and students. She used questionnaires followed by periods of observation in the ward setting. Like Revans (1961) and Lelean (1973) Fretwell's data strongly suggests that the sister is the key figure in the ward who controls the learning environment.
"An ideal ("good") learning environment is seen as one in which the educational needs of the learner are met - it is created by the sister and other trained nurses working in the ward. It is anti-hierarchal and key features are teamwork, negotiation, good communications and availability of trained nurses during work and when the work is done. The sister is democratic, patient oriented and fulfils an active teaching role. She makes a conscious effort to make teaching a reality."

Fretwell (1980) (p 73)

Activity sampling showed that sisters on "high ranking wards" were seen to allocate less time to doctors and more time to teaching students than did their counterparts on "low ranking wards".

Fretwell makes an interesting observation which is not addressed in any of the other studies. Her data suggest that the type of work during which teaching and learning take place is "technical" rather than "basic". The highest percentage of teaching activities occurred when learners were doing "technical" work with trained nurses (64%) and the lowest when they did "basic" work with other untrained members of staff (15%).

An exploratory study by Orton (1979) was concerned with student nurse learning in the ward and the related role of the ward sister. Questionnaires were used to investigate the attitudes and perceptions of student nurses, ward sisters, nurse tutors and clinical teachers regarding the ward learning climate.

Once again the conclusion was drawn that it is the ward sister who, above all, occupies the crucial position for determining the ward learning climate. Orton describes wards where the teaching and learning was good as "High Student Orientated Wards" (H.S.O.). She uses the following summary of her findings to describe the characteristics of these wards:-

"The overall picture presented by the comments and the data was of a happy, purposeful environment guided and regulated by a confident, considerate ward sister who led her staff and students within a team. She was concerned for the well-being and development of each one of her charges, including patients, and was willing to spend a considerable
amount of her time on teaching activities. Every opening was utilised to create and maximise learning opportunities."

Orton (1981) (p 45)

The role conflict potentially inherent in the learner/worker dichotomy was not experienced by students on "H.S.O." wards. The ward sister regarded them as learners rather than workers and attached great importance to their learning needs. The "H.S.O." wards had teaching programmes including learning aids and the ward report was fully utilised in helping students to learn. The duty rota was planned to give the students wide experience and patient allocation rather than task allocation was practised on these wards. The procedures used in these wards differed little from those taught in the school.

As the above results emerged from the analysis of student only data, ward sisters were also asked for information and opinions as to how they ran their wards and their system of priorities in order to give a balanced picture. To a remarkable extent sisters divided themselves according to the two extreme types of ward (H.S.O. and L.S.O.) thus confirming the behaviour described by students.

Ogier's study (1980) was concerned with the "leadership" style and verbal interaction of ward sisters with nurse learners. The method of research was the development of a grounded substantive theory (Glaser and Strauss (1967)). Student nurses completed questionnaires about their perceptions of both the ward sister and the ward (The Learners' Perception of Ward Climate Questionnaire (L.P.W.C.)). Ward sisters completed Fleishmann's (1969) leadership opinion questionnaire. A very small sample of ward sisters had audio-recordings made of their verbal interactions while they were working over the period of a week. Ogier's pilot study indicated three main points:-

"Ward Sisters do have different leadership styles; these different styles are detectable by questionnaires and audio-recordings; nurse learners indicate a perception of differences in the style of ward sisters by questionnaire responses."

Ogier (1982) (p 59)
During the analysis of the data from the main study three categories related to the sisters' leadership style developed. These were approachability; nurse learner orientation and directiveness. Directiveness is defined as -

"a characteristic or behaviour of a sister, especially speech behaviour, that indicates the way she directs the affairs of the ward."

Ogier (1982) (p 62)

Ogier (1982) concluded that the "ideal" sister, that is one who will be a teacher resource by facilitating an environment that is conducive to learning will have a leadership style that is:

"approachable, nurse learner orientated and sufficiently directive for the nature of the work. She will have a pattern of verbal interaction with nurse learners that is perceived by nurse learners to be propitious to them."

ibid (p 63)

The highly rated ("ideal") sisters spent less of their time on duty interacting with anyone, than the less highly rated sisters ("non-ideal"). However when they did interact 40-50% of the interaction was with nurse learners.

Another significant characteristic of the "ideal" sister as described in this study is that she is more likely to put emphasis on the teaching of the theory of a subject ("to know why", "to know about") than the "non-ideal" sister who is more likely to concentrate on the practical aspects ("to know how", "to do"). All students in the study expressed an overall desire for equal amounts of theoretical and practical knowledge. It is worth noting that the majority of students in this study felt like "workers" rather than "learners" for most of the time during their training.

In 1984 Ogier used some of the original questions from the L.P.W.C. Questionnaire (Ogier 1980) on a small sample of students (149) from two separate Health Districts in order to ascertain if her original results remained relevant in a changing nursing scene.
The results indicate that in one health district student nurses feel more like "learners" than they did seven years earlier. However Ogier (1986) states:—

"Even if student nurses' self-perceptions may have changed, their opinions of what is "helpful" or "good" or "otherwise" in a ward has remained markedly steady."

(p 57)

The data collected from these students clearly show that their answers to certain questions were clearly polarised as in the original study and clearly differentiate between the "ideal" and "non-ideal" sister.

In 1978 the DHSS approached the Nursing Education Research Unit at Chelsea College, London University with a suggestion that the Unit should examine the area of student nurse clinical learning. The project was accepted and in October 1978 the pilot stage of the "Clinical Learning Project" began.

This study attempts to identify factors promoting and inhibiting the clinical learning of student nurses. Overall this is a much larger study than those which have just been described and uses multiple criteria.

Lewin and Leach published the findings of the pilot study of the "Clinical Learning Project" in 1982. As with the studies which have just been described the bulk of the data which was collected was aimed at highlighting the distinguishing characteristics of "good" (high rated) and "poor" (low rated) clinical learning areas. Students used in this study rated their current wards according to their perception of their "quality" as a learning environment.

Lewin and Leach (1982) report that in high rating ("good") wards the trained staff had more frequently demonstrated practical procedures to the students and engaged in "quizzing" of their theoretical knowledge. The students were supervised more and worked more often with the trained staff than on low rating wards. The students on the "good" wards perceived the trained staff to be approachable and more often felt that
they could talk to them and discuss their difficulties compared with low rating wards.

The personal characteristics of the ward sisters in "high" rating wards were found to differ substantially from those of their counterparts on "low rating" wards. Lewin and Leach (1982) summarise the characteristics of the sisters on the "good" wards as follows:-

"They were older and less likely to have trained in the "case study" hospital. They more often possessed nursing qualifications in addition to that of SRN. They had worked as sisters longer and had been a sister in their present ward for a longer period."

(p 134)

This interesting finding which has not emerged from any of the previous studies is confirmed by Reid (1983). In Reid's study it was found that in the "better" wards clinical teachers were also older and had had more experience as ward sisters than those on the "worse" wards.

Lewin and Leach (1982) confirm the findings of Orton (1979) that sisters on "good" wards are likely to have formulated ward objectives and to have written them down. Overall the sisters and trained staff on the "good" wards in the Lewin and Leach (1982) study do participate more in teaching and supervision including a greater involvement with the handover report than sisters on the "poor" wards. However the data do indicate that the sisters on the "good" wards do have more time for these activities as the workload on their wards, when assessed in terms of patient dependency, is lower. Again this last point is a piece of data that did not emerge from previous studies.

One of the most interesting findings of the Lewin and Leach (1982) study from the point of view of the student nurse evaluations of their ward experiences was that some factors which might have been expected to distinguish the "low" and "high" rating groups did not do so.
"The groups were equally likely to have worked in short-staffed wards. They were equally likely to have received "formal" teaching sessions, such as lectures in the ward and to have been visited by clinical teachers."

Lewin and Leach (1982) (p 131)

As was mentioned earlier all these results were generated by the pilot study. In their conclusion to their report of this work Lewin and Leach (1982) state:-

"We anticipate that the current longitudinal study, involving three cohorts of students from three different training schools, will yield more extensive information."

ibid (p 137)

Reid (1985) kept in close contact with Lewin and Leach and the Chelsea College Team throughout her study. Reid states that they were the first two to conduct investigations of nurse training in the clinical area "in terms of multiple criteria" (p 30).

In her literature review Reid (1985) highlights a possible weakness in the studies by Fretwell (1978) and Orton (1979):-

"The implicit assessment of wards as training areas on the sole basis of attitudinal attributes is less than convincing."

(p 29)

However Reid did feel that Orton's study had strengths, particularly in the very detailed and searching attitude statements which were employed.

The focus of Reid's study (1985) was on the criteria determining the effectiveness of the clinical area in the training of learners, and, further, in the number of learners who could be effectively supported. Fundamental to this study is the assertion that a ward can be objectively assessed as a training area.

By means of a sophisticated statistical investigation using a method of logistic discriminant analysis Reid aimed to discover -
"the criteria, or inputs, which significantly discriminate between the "best" and "worst" wards, as measured by the output stage."

Reid (1985) (p 41)

The study was carried out on 25 Medical Wards in Northern Ireland.

Overall the levels of overt teaching on the wards which were observed in this study were low. The model of teaching appeared to be that of learning by example. It was found, almost without exception, that staff were not deployed in a way which made the best use of trained staff as possible teachers of learners. Learners worked unsupervised for over 3/4 of their time on the wards. When nurses worked in pairs, trained staff were often together, and learners were often in pairs. On the whole nurses tended to work alongside their peers.

Low levels of clinical teaching was also observed. Two thirds of the students reported never having seen a Clinical Teacher during the current ward allocation. Clinical Teachers themselves estimated that they spent less than half their time on the wards due to other demands.

A worryingly high proportion of students felt they were just "a pair of hands" and many of them expressed concern at the lack of liaison between the school and ward staff. On further investigation service staff were less happy with liaison than school staff. Tutors, particularly Senior Tutors, rarely visited the wards, and ward staff rarely visited the schools of nursing.

A number of important points emerged as general conclusions from Reid's (1983) study which add validity to many of the other studies which have just been discussed:-

1) The amount of contact (including overt teaching) between learners and trained staff was considerably higher on the "better" wards. Reid defined "contact" as the joint working time where learning was possibly taking place, by example, but not overtly occurring.
2) Age and experience were important factors for almost every grade of staff (Staff Nurses, Ward Sisters, Clinical Teachers and Tutors) in that the "better" wards had more experienced and better qualified staff.

3) Clinical Teachers in the "better" wards had put in longer service as ward sisters than those on the "worse" wards.

4) For introductory and medical module learners the staff nurse could be the key grade in educating learners on the ward. Second year student questionnaires showed that the "better" wards were most distinguished by the degree to which staff nurses organised work to maximise learning experience. Reid's study highlights the fact that many staff nurses did not see themselves as the primary source of educational contact. The Ward Sister was seen as the most important educational contact for the third year students as they were seeking experience in management.

5) The ratio of trained staff to learners did not differ between the "better" and "worse" wards nor did the overall staff per bed. On workload per nurse per hour the two groups had very similar findings. Reid's findings point primarily to the better use of the staff who are available.

"Ways must be found of training ward managers to direct staff in such a way that trained/learner contact is maximised with the constraint of course, of providing the best possible patient care."

Reid (1985) (p 168)

It seems likely that Reid's (1983) research project will prove to be of major importance in the future. As a result of her work she has produced a research instrument (a ward activity analysis) which could be widely applied in assessing the suitability of wards for learners and therefore ensuring that their clinical allocation is resulting in effective nurse education.
b) Wards where teaching and learning were "poor"
(Fretwell, Orton, Ogier, Lewin and Leach, Reid)

The implication is that the characteristics of the wards where teaching and learning were "poor" are the antithesis of those which have just been highlighted in the previous section. This is in fact the case. However I propose to mention each study again briefly under the present heading in order to add some points which are not obvious by implication.

1) Fretwell (1978) stresses that the only common characteristic on the least popular, low ranking wards in her study was that there was little teaching by the sister and trained nurses.

Fretwell (1982) strongly condemns a hierarchal system and task allocation:-

"It seems that a system which has traditionally developed to get the work done, produces an environment which is the antithesis of the learning environment. For on the one hand a system of task allocation, in which tasks are allocated according to a place in the hierarchy, takes trained nurses away from the learners who are most in need of help; on the other hand routinisation of work contributes to an automatic job performance which stifles a spirit of enquiry and must in some way affect the quality of patient care."

(p 112)

2) Orton (1979) describes the "low student orientation" (L.S.O.) wards in her study as follows:-

"The overall picture presented by low student orientation wards was one of discord resulting from an unfriendly and uncaring environment. Student nurses felt neither wanted nor valued and resented the lack of teaching which they felt reduced the individual student nurse to 'just another pair of hands'.

In comparison with high student orientation wards the overwhelming impression is one of wasted opportunities with resulting losses in human happiness and well-being."

Orton (1981) (p 46)
It is of interest that the vast majority (96%) of the students in Orton's study who worked on 'L.S.O.' wards believed that they learnt more from other students than from qualified staff.

3) Ogier (1980) states the less highly rated (Non-Ideal) Sister communicates less with nurse learners, not only less in quantity but less efficiently, in that the content of the interaction is sister-orientated rather than nurse learner orientated. Less highly rated sisters asked twice as many questions but gave half the number of instructions compared to the 'ideal sister'. Ogier suggests that these two facts are inter-related. Sisters give less instructions so nurse learners are less clear of what or how they should be doing something, necessitating the frequent checking whether tasks are completed. Alternatively both may be a feature of reduced communication, sisters giving less instructions and because of reduced communication channels nurse learners less spontaneously coming forward to sisters, thereby making it necessary for sisters to ask more questions. Either way sister/learner communications were poor with the result that the students' learning was affected. This supports Revans (1964) who wrote:-

"If the learner cannot ask questions or seek clarification when he stands in need of it, his learning process will be retarded, since new knowledge is most easily absorbed when there is eagerness to use it. The difference between giving learners the opportunity to ask questions, on the one hand, or of denying these opportunities, on the other, is not merely the difference between making learning pleasant or making it laborious: it is the difference between learning and not learning."

(p 55)

This may well be a point which needs to be addressed in my own project which centres on individualised learning. The student is divorced from the teacher during the learning process and is therefore unable to ask questions as the need arises.
3) Lewin and Leach (1982). In the first part of this pilot study the only criterion used to differentiate between the high and low rating wards was the student nurses' evaluations of their own experiences. In the second half of the study the research team extended the analysis by assessing changes in the student nurses' clinical performance during a ward allocation. Rating scales were designed for each nursing procedure. Three aspects of nursing performance were assessed: technical skill, interpersonal skill and 'care'. Being a pilot study the numbers involved were very small (n15) but it still revealed some interesting results which would be investigated further in the main study. It was found that the students whose clinical performance had "deteriorated" were less likely to regard the ward staff as approachable and reported lower levels of supervision. They had also worked rather more often in short staffed wards than students whose clinical performance had not deteriorated.

6) Reid (1983). The 'worse' wards for nurse training as described in Reid's study were characterised by problems resulting from manpower shortages of clinical teachers and of trained ward staff.

"The 'worse' wards had both sisters and staff nurses who were relatively young and lacking in clinical experience. The lack of confidence and inexperience of the young ward sisters was illustrated by their attitudes to nurse education, they were authoritarian and opposed to a proper emphasis on theory. The young ward sisters were less familiar with the educational objectives of the learners, and were less likely to organize learners' time in such a way that the learner benefited educationally. The use of learners as 'pairs of hands' was prevalent in these wards.

The 'worse' wards also had young and clinically inexperienced clinical teachers. It was found that many clinical teachers did not make the best use of their time."

Reid (October, 1983) (p 8)
2.2b (III) Studies which relate to the teaching role of:-
   a) The Ward Sister
   b) The Nursing Officer/Clinical Nurse Specialist
   c) The Teachers of Nursing (Nurse Tutors
   Clinical Teachers)

IIIa) The Ward Sister

Section 2.2 b (II) has mentioned a succession of studies which have produced strong evidence to suggest that the Ward Sister is the key to creating a good learning environment for the pupil and student nurse in the clinical areas. However in their recommendations and conclusions nearly all these studies have stressed the urgent need for better preparation and training for the Ward Sister in order that she can improve her teaching role. Fretwell (1982) states:-

"Whatever happens in the future to change the status of the learner there seems to be an urgent need for sisters to be taught how to create a learning environment and how to fulfil their teaching role."

(p 115)

Various suggestions have been made about the way ward sisters should be prepared for their teaching role. These include the setting up of joint appointments between education and service (Gott (1982), Reid (1983)), training in leadership and interactive skills (Ogier (1982)), developing skills of human relationships and communication (Marson (1981)) and setting up training wards using an "Ideal" sister as a role model (Orton (1981)).

Pembrey (1980), who carried out an exploratory study to develop measures of ward sister performance in relation to individualised nursing, reiterates Orton's suggestion in her conclusions:-

"Consideration might be given to designated training wards for ward sisters in which the opportunity to work with role models and to learn to manage the nursing in its operational environment could be combined with theoretical work."

(p 87)

In 1977 the Department of Health and Social Security and the King Edward's Hospital Fund for London (King's Fund)
sponsored an experimental training scheme for ward sisters partly as the result of Pembrey's work.

As a subsidiary to the main study Farnish (1985) carried out a survey to produce some answers to the question, "What do we know about the preparation nurses receive for the role of ward sister?" Her results show that the area of responsibility for which the sisters in her survey felt least prepared was that of teaching and assessing (Table I, p 48). Two thirds of the respondents felt inadequately prepared in this direction. Other areas of responsibility were management of patient care, ward management and personnel management.

In relation to overall preparation of their role the data which Farnish (1985) obtained showed that in most instances sisters had acquired the skills and knowledge they needed informally rather than formally. More than half of the respondents indicated that they had learned mainly through trial and error.

Generally the data strongly suggest that there are serious inadequacies in the preparation of nurses for the responsibilities of a sister.

These findings were confirmed by Bryant (1985) when she carried out an exploratory study on "The role and preparation of the ward sister involved in nurse training:"

"The findings show the quite striking level of agreement among subjects that preparation (for their role) was required, and also that they were very conscious of the lack of it and of the "vicious circle" this created."

Bryant (1985) (p 178)

The ward sisters in Bryant's (1985) study were in agreement with the concept of training wards and the use of role models as a method of preparation. They sought to link their learning with experience.

"Preparation and development were generally viewed as a continuing process, and the favoured pattern appeared to be for opportunities, both on and off the job, at the staff nurse stage, which continued for the ward sister. The view overall seemed to be that preparation for a ward sister's role started as a staff nurse and should be planned with some
sense of progress and continuity."
Bryant (1985) (pp 183-4)

The experience of the sisters in Bryant's sample had been of a "very piece-meal and sometimes casual approach to their preparation". One third had not attended First Line Management Courses and a third had not attended teaching and assessors courses.

Lathleen (1984) reports on the King's Fund research project to develop and evaluate a training programme for ward sisters which began in 1979. The study was carried out by staff from the Nursing Education Research Unit at Chelsea College.

"Training Wards" for ward sisters were established in Whipps Cross Hospital (a non-teaching hospital on the outskirts of London) and Guys Hospital (a London teaching hospital). Two senior staff - an experienced ward sister and a registered nurse tutor - were jointly responsible for the nursing care, teaching and management. They were known as "Preceptors". Newly appointed Ward Sisters and Staff Nurses with 'potential' entered the course in batches of between two and five. Each course lasted for six months, the first three of which were on the training ward.

An action research approach was adopted in order to evaluate and monitor the course as it progressed. By using such a model modifications were made and changes implemented as and when problems arose.

Findings from the project confirmed that there was a need for specific training of ward sisters. They also confirmed that a ward based course was appropriate for this type of training and that by this means trainees saw the obvious relevance of course inputs to their jobs. Learning from role models was an important and beneficial feature throughout the project although the emphasis shifted from working with one ward sister, to observing and comparing a number of ward sisters.

The joint education/service approach was found to be one of the main advantages of the scheme. The course increased
awareness amongst organisers and participants of the potential conflict that can occur, but also the benefits that accrue from joint approaches.

The need for a "partnership" approach between education and service was also stressed by Bryant (1985) in relationship to staff development courses.

It seems likely that the findings from the King's Fund study on the Ward Sister Training Programme will be used to set up similar courses throughout the country. In fact many moves in this direction are already taking place.

Ford et al (1979) published the findings of their evaluation of an alternative scheme to the King's Fund to prepare ward sisters for their teaching role. In this study ward managers (sisters) attended the local College of Technology one morning a week for a twelve week period. The aim of the course was to give experienced ward managers the principles of effective teaching in the clinical situation and to demonstrate the most effective methods of putting the principles into practice.

The overall conclusion was that on average the course was considered to be good and that the needs of the members had been met. However 40% of the participants still felt that they would encounter some problems bringing together their teaching and managerial responsibilities.

III b) The Nursing Officer/Clinical Nurse Specialist

"The Nursing Officer (Grade 7) will participate personally in the training of the nursing staff and in the practical training of student and pupil nurses allocated to the unit."

The Salmon Report, HMSO (1966) (p 50)

If this recommendation of the Salmon Committee relating to the functions of the Nursing Officer is to be recognised it would seem important to examine her role as a potential teacher in the clinical areas. However, few studies have been carried out in this area. What evidence there is indicates
that the teaching role of the Nursing Officer is minimal.

An early study on the work of the Nursing Officer was carried out by Wilson-Barnett (1973). This indicated that they had very little responsibility for teaching. A study by Carr (1978) confirmed these findings. In a survey of the work of the Nursing Officer in the Newcastle Area Carr took his sample from the general, psychiatric, midwifery and community fields. In his conclusions he estimated that the amount of time that Nursing Officers spent teaching learners was low, ranging from 0.56% to 3.65% of their time per week. The amount differed between the four disciplines as shown in Table 2.7

<table>
<thead>
<tr>
<th></th>
<th>% of time used in a week</th>
<th>Hours/Minutes spent per week</th>
</tr>
</thead>
<tbody>
<tr>
<td>Midwifery</td>
<td>3.65</td>
<td>1.38</td>
</tr>
<tr>
<td>Psychiatry</td>
<td>1.04</td>
<td>0.26</td>
</tr>
<tr>
<td>General</td>
<td>0.82</td>
<td>0.22</td>
</tr>
<tr>
<td>Community</td>
<td>0.56</td>
<td>0.14</td>
</tr>
</tbody>
</table>

Table 2.7 Time Nursing Officers spent teaching learners during one week

Carr (1978) (p 94)

Nursing Officers in the general field also spent an average of 0.07% (0.02 minutes) of their time assessing learners per week.

The tasks which absorbed the highest amount of time for the Nursing Officers in all four fields was office routine and visits to the wards and departments. The one exception was in the community where telephone calls came second on the list.
An interesting finding which emerged from Carr's study is that although the nursing officers taught the students for such a small amount of their time, 22% of them found teaching the most satisfactory aspect of their work. This would appear to indicate that given more time the Nursing Officer would engage more often in teaching activities.

However as Bryant (1985) points out it is unlikely that the Nursing Officer herself has received any more preparation for her teaching role than the ward sister.

Bryant (1985) emphasises that one of the most important roles of the Nursing Officer as regards the education of students is in helping to create a stable environment within which the sister can develop her role as 'facilitator of learning'. Bryant (1985) states:

"The subjects (sisters) in this study seemed clear in their expectations of Nursing Officers. They looked for understanding and encouragement, that is a supportive role, with sufficient authority and control to introduce changes with the backing of Nursing Officers."

(PP 167/8)

2.2b(iii)c Studies which relate to the Teaching Role of the Teachers of Nursing (Nurse Tutors, Clinical Teachers)

Chapter 2.2a parts (iii) and (v) cite a succession of reports and publications which highlight the shortage and maldistribution of nurse teachers (Wood, 1947; Dutton, 1968; DHSS, 1970; GNC, 1975; HMSO, 1979; Wells, 1981; RCN (Chapman) March 1983; RCN, March 1983 (Greenwood); RCN, January 1984; Judge, 1985; ENB, 1985). Some of these reports (Dutton, 1968; Wells, 1981) give reasons for the teacher shortage as do House and Sims (1976) and Sheahan (1981). Some of the general effects of the shortage of nurse teachers have been discussed in earlier sections.

In this section I propose to discuss specific studies which highlight a variety of aspects of the role of the teacher
of nursing which have not been mentioned previously.

Davis, B.D. (1983 a) carried out a study to monitor the social perceptions of student nurses during their training and to demonstrate the process of becoming a nurse. When investigating the relationship between student nurses and 'significant others' (those influencing the process of becoming a nurse) Davis highlights one of the consequences of the lack of nurse teachers in the clinical areas. The students in the study gave very low weightings to nurse teachers as 'significant others' or resource people giving more importance to other students, staff nurses and ward sisters. Davis suggests that tutors may well be aware of their relative unimportance as a resource person and that this may add to the tutors' feeling of dissatisfaction arising from the service education conflict as described by Sims (1976).

A similar finding by Gott (1982) stresses that because nurse tutors do not work on the wards their advice is often disregarded, and that students very quickly adopt the values of the ward nurses. This was not true of the clinical teachers however who were regarded positively. They taught on the wards, in the real situation and were therefore valued by learners and trained nurses alike. Gott concluded:

"The message to nurse teachers is clear; if you want to be valued and influence nursing, and thus patient care, you must teach and practise nursing care on the wards."

From Davis, B.D. (1983 b) (p 119)

Gott (1982) was also very critical of the teaching methods she observed during her study. She suggests that one of the reasons why students fail to practise 'whole task behaviour' (i.e. not carrying out mouth care following a bed bath) is due to them having fragmented instruction in the school. In one school which was observed these two procedures were carried out a week apart.
For theoretical topics the principal method chosen by nurse tutors in Gott's study was the traditional one using formal lectures. It was teacher centred rather than student centred. She highlights the great need for the use of more progressive and imaginative teaching methods particularly for such topics as interpersonal and communication skills which are central to good nursing.

A similar finding emerged from an earlier study by Wood (1971) which investigated student evaluations of their tutors in four schools of nursing. The results indicate a need for more concern by tutors about the behavioural aspects of their teaching. Wood suggests that tutors should try to stimulate student intellectual curiosity and show a receptive attitude to promote reduction of social distance between student and teacher.

Other evidence from Gott's (1982) study suggests that skilled health care practitioners (including nurses) were grossly underused by nurse teachers and would not only enhance the quality of the teaching but would also help the situation regarding the shortage of teachers.

"It now seems clear that the nurse teacher's role must change from that of the expert to that of the facilitator. She cannot herself, be expected to know all the answers to student learning needs, indeed, she may not, if she continues to operate in the isolation of the nurse training school, be aware of many of the student's learning needs."

From Davis, B.D. (1983 b) (p 126)

Bryant (1985) confirms this finding. The ward sisters in her study felt that they should be considered more by tutors and that more use should be made of their specialist clinical knowledge, particularly in relation to the planning of the training programme. Overall these sisters felt an acute lack of communication with tutors. They would also have appreciated more support and guidance from the tutors to plan ward training programmes. They felt that they were not given enough information on the 'overall design of the course' and of students' previous learning.
Bryant (1985) indicates that those sisters whose attitude about their teaching role was "passive" may have been converted to increased action if they had more contact, guidance and help from teachers. Bryant states:

"In this study there was little evidence of a partnership with teachers, although that this was essential seemed undisputed if an integrated and practice based curriculum were to be developed."

(p 166)

She stressed that in order to close the gap between the ward sisters and the nurse tutors the initiative must be taken by the teachers. If a more mutually satisfying relationship could be found between these two groups in the future -

"then in turn the recruitment of more nurse teachers might be improved, and help to break yet another vicious circle."

ibid (p 167)

2.2b(iv)Action Research which has aimed at improving the relationship between theory and practice in the Clinical Areas

"It is at local level, in relatively small yet carefully designed and evaluated experiments, that we need, and indeed can, within our existing system, implement methods of teaching and learning which aim to facilitate integration in all its aspects."

Alexander (1982b)(p 66)

During the last eight years two quite extensive research projects have been carried out which have particular relevance to my own. Alexander (1980) and Fretwell (1985) both used an action research approach whilst planning, implementing and evaluating educational programmes which aimed at improving the integration of theory and practice in nursing.

Alexander (1980) introduced an experimental scheme of teaching/learning into five Colleges of Nursing in
Scotland. The scheme consisted of a planned teaching/learning unit of concurrent theory and practice in the care of patients with diseases of the gastro-intestinal system. During the time allocated to the nursing lectures for this subject, student nurses spent part of their time in the wards, under the supervision of their teachers (tutors and clinical teachers) giving total patient care to patients who had been chosen because their conditions related directly to the subject matter of the course.

For the remaining hours, the students returned to the College with the same teachers to participate in tutorials and seminars in which they discussed the nursing care they had been giving. The needs of their individual patients were also related to lecture notes and textbooks.

In four of the Colleges of Nursing which were used the experimental method of teaching/learning was only undertaken by half of each class of students. The other half were used as a control group and continued to be taught by the conventional method where all the teaching was given in the College of Nursing. Figure 2.8 illustrates the difference between the allocation of time to each group.

![Diagram](image)

CONTROL GROUP

EXPERIMENTAL GROUP

Note: Shared Lectures were, almost exclusively, those given by medical staff.

Figure 2.8 Essential difference between control and experimental groups' course on care of patients with gastro-intestinal disease (example from a college of nursing which allocated 34 hours to this subject)

Alexander (1983) (p 67)
The overall approach adopted in the research was that of illuminative evaluation (Parlett and Hamilton (1972)) (see Chapter 3.3). The research tools used were opinion questionnaires from all staff involved, student diaries, teachers' notes and pre, post and retention tests of students' knowledge.

In the pre-experiment stage of her study Alexander (1980) confirmed many of the findings relating to ward teaching and learning which have already been discussed in earlier sections. She produced considerable evidence of situations where nursing practice differed from what was taught (Hunt (1974), Bendall (1975), Powell (1982)) and of the small contribution which is made towards ward teaching by Ward Sisters (Reyns (1964), Lelean (1973)), Clinical Teachers and most of all Nurse Tutors (Reid (1983)). The students in Alexander's study reported learning the most from staff nurses and other students.

Two new findings which emerged from the pre-experimental stage of this study are:

1) That 77% of the student respondents felt they learned more on the ward than in the college of nursing, and
2) That the ward tutorial was the most favoured method of teaching/learning.

Some interesting and encouraging findings emerged as the result of using the experimental method of learning just described.

Students commented that the active, experiential learning on the wards resulted in better understanding of the subject with consequential easier recall and overall an increased interest in learning. Alexander states:

"Students expressed approval of the less formal teaching methods and opportunities for more contact with tutors, and with patients. Ward staff saw advantages for the students in their freedom from
pressures and interruptions of ordinary ward work, and considered the opportunity for them to participate in total patient care was beneficial."

Alexander (1983) (p 211)

The advantages for the teacher were in observing students at work, rectifying faults immediately and co-ordinating theory and practice.

The experimental students scored better in both the post tests and the retention tests than control group students. Though the difference was very small at the immediate recall stage it was definitely more marked at the retention (long term test) stage.

The effect of the experiment on the ward work was generally considered to be beneficial. The ward work was lightened for the regular staff who could give more time to the other patients. There was evidence that many of the trained staff in the wards became more interested in teaching.

There was general agreement between ward and school staff that communication between them had improved and that the gap between the ideal and reality in nurse education had been reduced. There was total agreement that the experiment had helped the student to integrate theory and practice.

A particularly interesting finding, as regards my own work, which emerged from this project was in relation to the study habits of the students. Alexander (1983) reports:-

"The general impression was that very little study was either required of students, or done by students in their own time. The Block timetables were full - almost every period occupied by a class on a specific subject from the syllabus. The evidence was of an emphasis, by teachers, on 'covering' the content of the course, and for students, of a somewhat passive recipient role, rather than an active, searching role in regard to learning."

(p. 195)

She goes on to comment:-

"Study - whether required or done - reflects upon teacher as well as taught. It can be presumed that the habit of study, or self-directed education,
was not valued by teachers as so little appeared in the timetables."

ibid (p 196)

Overall the students in Alexander's sample found 'study' the least popular method of teaching/learning.

When discussing the implications of her project Alexander makes the following comment:-

"There should be much more encouragement of study, and expectations, by teachers, of evidence of study by their students. Clearly from the commencement of training, students would require to be introduced to active, participative forms of learning."

ibid (p 223)

The second project I propose to discuss in this section was carried out by Fretwell (1985). It was born out of her earlier work on teaching and learning in hospital wards (Fretwell, 1978 and 82) which was discussed in Chapter 2.2 b(III).

The aim of Fretwell's (1985) work was to use an action research approach to implementing a strategy which would lead to the creation of a ward learning environment which was conducive to learning. Using evidence from her earlier studies (1978 and 82) she set the following objectives:-

"a) To increase the awareness of ward sisters to the implications of their teaching role, their responsibility to satisfying the educational needs of learners, and through them to improve the quality of patient care.

b) To develop a training programme which would enable sisters to fulfil their teaching role."

Fretwell (1985) (p 12)

The main study was carried out in a total of ten wards in two different Health Districts. Six were general wards and four were wards for the mentally handicapped. The main reason for choosing these wards was because:-

"the sisters and staff nurses could be relied upon to give maximum effort, that is they were seen (by their managers) as pioneers who want to innovate."

ibid (p 37)
This would appear to be an extremely important basis to a project of this kind where it was the ward staff themselves who were to be instrumental in bringing about changes.

In order to rate each ward for its learning environment at the beginning of the project, a questionnaire was designed using characteristics of an 'ideal' learning environment (Fretwell 1978 and 82) and elements of a 'high student orientated ward' (Orton, 1981) as a valid base. Participant observation and informal interviews were used in order to cross check data from the questionnaires. Each was then given a feedback report.

Meetings were arranged with the researcher to discuss areas of change which were needed in each ward and 'change objectives' were set. Informal visits were carried out by the researcher over the next six months to give support and collect data.

After six months evaluation questionnaires were sent out to examine any changes in staff relationships, ward teaching, provision of learning opportunities, general satisfaction with the management of the project and any individual action which had been taken to improve the learning environment.

A very important aspect of this project was the provision of study days for ward sisters and staff nurses. The purpose of these meetings was to provide peer group support, to stimulate and sustain innovations and for the collection of data. The researcher was the only person present apart from the ward sisters and charge nurses involved in the project.

"The meetings were loosely structured and continually modified to meet the changing needs of those involved. Emphasis was on providing a relaxed, non-threatening environment so that members could come to terms with their own short-comings. The identification of common problems was an important function of these meetings for it raised the level of discussion above interpersonal issues. The realisation that similar problems had been solved encouraged participants to seek ways of improving the ward environment (which inevitably encompassed delivery of patient care)."  

Fretwell (1985) (p 40)
The sisters were provided with reading materials relevant to improving the ward learning environment to include works by Fretwell (1978), Lelean (1973), Orton (1981) and Ogier (1980).

Overall a 'vigorous strategy was pursued' to keep everyone concerned informed about the project. Sisters were urged to pass on information at ward meetings and the researcher produced a newsletter which was circulated at intervals. Fretwell (1985) makes an interesting observation about the production and content of these newsletters which seems very relevant to the acceptance of this type of action research:

"The content of discussion papers and newsletters was the cause of much heartsearching and the view was taken that 'action research' did not confer the right on anyone to disseminate findings that might do harm to anyone in the hospital organisation be they district nursing officer, auxiliary, nurse, doctor or patient. Throughout the project the aim was to report findings with sensitivity and try to ensure that no one was left with hurtful findings and bereft of support. Again and again the point was stressed that findings should be used creatively and not to identify scapegoats."

(p 41)

Tact and diplomacy would appear to be of the essence in a project of this nature as indeed they proved to be in my own study.

In order to involve middle managers and teachers and to provide a direct contact of communication between the researcher and key members of staff, project committees were set up in each hospital. Information about the research was exchanged, progress was reviewed and ways were sought of solving any problems which were identified. Fretwell stresses the importance of informal contact with as many individuals as possible in order to get a balanced view, as many people were reluctant to express opinions at official meetings.
The overall findings of this project were very positive. As time went on not only the ward sisters but other ward staff became increasingly aware of their teaching responsibilities and took action to create a learning environment. Fretwell (1985) states:

"The essence of what sisters were doing throughout the project was to re-organise ward work and priorities and put teaching and learning into the routine."

(p 59)

One of the most successful innovations was the tutor/counsellor scheme. Here learners were assigned to a specific trained nurse who tried to ensure that their needs were met while at the same time monitoring their progress.

Doctors and paramedicals as well as other nurses were encouraged to teach in many areas and students were more frequently included on ward rounds. Off duty rotas were altered to enable learners to take part in such events. Several of the clinical teachers on the general wards extended their role to support and advise trained nurses. However teaching by managers was rare which supports the findings of Carr (1978) and Bryant (1985).

Overall, sisters learned to balance the needs of both patients and learners. The majority view was that patient care improved in all project wards. This was due in part to improved delivery of care (19.1%) by introducing 'total patient care' or beginning to introduce the 'nursing process' and to improved nurse-patient relationships (8.5%).

By the end of the project several wards could be described as model wards for teaching and learning. Others continued to improve.

In her conclusion Fretwell (1985) states:

"The study has shown that improvements can be made - but through participative approaches and education rather than coercion."

(p 131)
However in her final chapter when discussing organisational change and development she comments:

"Many of the changes produced by the Shared Approach (Beer (1980) on describing approaches to change) in the project were substantial and lasting - certainly within ward boundaries. However there is no guarantee that a participative approach would continue after the researchers' departure, even though all three top managers valued the project."

(p 130)

This warning is one which I may well heed in my own project.

2.2 b (v) Conclusions

The studies which have been discussed in this section centre on the learning milieu for the student nurse in the clinical areas with an emphasis on the integration of theory and practice. The following conclusions are drawn from this discussion:

1) There is a large body of evidence to suggest that there are differences between what is taught in the school of nursing and what is practised in the wards in both general and psychiatric hospitals. It has been demonstrated that at times this can lead to potentially dangerous practice as well as a great deal of anxiety for the student. Various reasons are suggested for the dichotomy between theory and practice. These include methods of teaching which do not relate theories and principles to practice, lack of opportunities for students to practise their skills before they have to use them on patients, and the absence of teachers of nursing in the clinical areas helping students to adapt the 'ideal' to the 'real' situation.

2) Under the apprenticeship system the teaching of student and pupil nurses in the clinical areas is generally poor as is the liaison between the school and the ward staff. The ward sister is the person who has the greatest influence over the quality of the students' learning environment.
Sisters in wards where the learning environment is the best are likely to be older, more experienced and better educated both generally and professionally. They were likely to have created an atmosphere which was anti-hierarchal and open where communication and teamwork were good. These sisters would be democratic, patient orientated and would fulfil an active teaching role during which they would stress nursing theory. They are likely to regard the students as learners rather than workers and would have prepared a specific teaching programme for their wards.

3) The staff who are currently the most likely to be teaching on the wards are the staff nurses and other students. The highest percentage of teaching is likely to be concentrated on 'technical' rather than 'basic' work. Wards which are short staffed are not necessarily the worst wards from the point of view of the students' learning. On the wards where learning is good better use is made of whatever staff are available.

4) There is an urgent need to improve the preparation of the ward sister and the nursing officer (clinical nurse specialist) to fulfil their teaching role. This could be achieved in a variety of ways starting with the acquisition of teaching skills by students during their basic preparation. More specific courses in teaching and assessing skills are needed for ward sisters and staff nurses as well as the setting up of designated training wards for ward sisters.

Overall there is a need for an increased partnership approach between education and service in relation to staff development programmes. Nursing Officers need to support and encourage ward sisters more in order that they can implement changes including those necessary to improve the learning environment for the students.

5) There is an overall shortage of teachers of nurses including both clinical teachers and tutors. As a consequence of this tutors are rarely seen on the wards and clinical
teaching is patchy and sporadic. Some clinical teachers do not make the best use of their time. In wards where the learning environment is good clinical teachers are likely to be older and have had more experience as ward sisters than areas where the learning environment is poor.

Due to the fact that nurse tutors rarely appear on the wards student nurses often disregard their advice and quickly adopt the values of the ward nurses. Students are also less likely to regard tutors as a resource or 'significant other' thus diminishing the influence of the tutor during the process of the student becoming a nurse. The absence of the tutor in the wards also means that she has little influence over patient care.

6) There is a need for nurse tutors to use more progressive and imaginative teaching methods particularly for such topics as communication and interpersonal skills. They should make a positive effort to work more on the wards alongside their students helping them to adapt to the complexities of the real life situation.

Tutors should make better use of the expertise of clinical nurses and other health care professionals both for teaching students and for planning training programmes. Her role must change from that of 'expert' to that of a facilitator of learning.

Tutors should take the initiative in improving communications with ward sisters. They should keep sisters better informed regarding the overall design of training programmes and should offer them more support and guidance in the planning of ward training programmes.

7) There is evidence to suggest that students learn more in the wards than they do in the school of nursing and that the ward tutorial is the most favoured method
of teaching/learning. It is suggested that student nurses adopt a passive recipient role towards learning and that teachers place great emphasis on covering the content of the course and do not appear to value self-directed education.

8) It has been demonstrated that under the present system methods of teaching and learning which facilitate the integration of theory and practice and generally improve the learning environment can be successfully implemented into the clinical areas at local level (Alexander (1980), Fretwell (1985)). It is essential however that these projects are carefully planned and evaluated and that they are introduced with great sensitivity.

2.3 LITERATURE REVIEW

DISTANCE/SELF-DIRECTED LEARNING

"The basic question is not whether one teaching method is better, worse or equal to another. Rather, the question is, for what are the methods best suited respectively and how can they be combined to produce optimum results."

G.M. Torkelson (1977)

"The growing awareness that learning, not teaching, is the decisive factor in education has brought support to distance education along with methods of independent (individualised) study, like the Keller plan and the university without walls movement. Both the need for disciplined study for specific useful purposes and the drive towards student autonomy have paved the way for wider recognition of distance education, which appears to be an effective tool for both endeavours."

B. Holmberg (1977) (pp 18-19)

In this section of the literature review I propose to examine the evolution, psychological basis, characteristics and uses of distance education together with relevant research findings in both general and nursing education.
Moore (1975) states that:

"Distance education includes all those teaching methods in which, because of the physical separateness of learners and teachers, the interactive as well as the pre-active, phase of teaching is conducted through print, mechanical or electronic devices."

The literature relating to this educational method is vast and in both general and nursing education has its origins in America. During the late 1960's and early 1970's papers from the United Kingdom were becoming more prominent. From the mid 1970's onwards there has been a spread internationally to what has now become a world wide movement. It is therefore necessary to be selective in this literature review to highlight those issues which are particularly pertinent to my own study.

2.3(a) Evolution, Characteristics, Uses and Psychological Basis of Distance Education

The earliest form of distance education was the use of teaching machines and programmed instruction. The psychological principles on which these methods are based is the theory of operant conditioning (shaping) described by Skinner (1938, 1954, 1961, 1968). The student must progress gradually from familiar to unfamiliar material, must be given an opportunity to learn the necessary discriminations, and must be reinforced as he progresses.

The first teaching machines were in fact constructed by S.L. Pressy in the 1920's which was before Skinner published. He designed two machines for automatic testing which he found not only saved marking time but also caused the students to learn. (Marson, 1972)

In 1954 Skinner published a paper on "The Science of Learning and the Art of Teaching" in which he discussed the possibility of applying the concepts deduced in his laboratory experiments on "shaping" the behaviour of pigeons to classroom
learning. As a result the technique of linear programming was developed which is based on the theory of operant conditioning.

A "Skinnerian" linear programme takes all students through the same path of learning, the steps are small, the student responds to every step and responses are repeated frequently. The programmes are designed to ensure that the learner rarely makes a wrong response. Hill (1980) states:-

"This arrangement forces the author of the programme to plan the sequence of items very carefully in terms of just what the student needs to learn and just how it can best be presented. Whether a programme is in a workbook or in a machine is of secondary importance."

(p 105)

A progression from the linear to the branching programme was made by Crowder (1959). In this type of programme each student follows an individual path of learning. The units of information tend to be longer than in linear programmes meaning that students are not so likely to get the correct answer straightaway. Choosing the wrong answer takes them off down a side branch to be given additional information. The computer is the machine that is most likely to be used for branching programmes today.

During the early 1960's there was a steady growth in the use of programmed instruction at all levels of education, particularly in the U.S.A.

Turner (1967) and Marson (1969) were two of the first writers to discuss the use of programmed instruction in the education and training of nurses in the United Kingdom. Marson (1969) highlighted the need for a national body to direct and sustain effort in the production of programmes and to prevent duplication. She also advocated the setting up of local groups to support and sustain isolated writers. Marson herself had compiled a Register of Programmes for Nurses
as one of her first endeavours after she was appointed to study the application of programmed learning to nurse education in 1968. This three year project (1968-1971) was sponsored by the Nuffield Provincial Hospital Trust and was under the direction of Professor H. Kay at the Department of Psychology, Sheffield University. The project was based at Sheffield University Programmed Instruction Centre of Industry (P.I.C.I.). After 1971 further funds were made available to extend the project by the General Nursing Council and the Department of Health and Social Security. By 1973 more staff had been appointed and the venue was moved to Sheffield Polytechnic where it became known as the National Health Service, Learning Resources Unit. By that time the main aim of the Unit was to serve as a national advisory centre for educational technology in nurse education.

Hull and Isaacs (1969 and 1972), nurse tutors at the Luton and Dunstable Hospital, wrote over thirty programmes during the period 1968-1971. These were eventually published by the N.H.S. Learning Resources Unit and have since been widely used in schools of nursing throughout the country. Two of these programmes are incorporated into my own learning package. (The Healing of Fractures and The Hip Joint.)

One of the earliest systems of individualised study was the Postlethwaite Audio-Tutorial Method (Postlethwaite et al (1970)). It was devised and first used in a botany course at Purdue University in the U.S.A. in 1961. It comprised independent study sessions usually carried out in a self instructional carrel equipped to use audio tape and other media. The tape recordings often incorporated activities for the student to carry out as they progressed. An instructor was available for the student to refer to if necessary. Students were left to go at their own pace and could use the materials at whatever time they chose. Once a week the students could attend a general assembly where they would have a guest lecture, long film or occasionally a major examination. Quiz sessions were carried out weekly in small groups of 6 to 10 with an instructor.
This method was used quite widely throughout the States both in general and nursing education. Quiring (1972) describes the use of the auto-tutorial approach at Pennsylvania State University School of Nursing to help students to become proficient in injection techniques. Evanston Hospital School of Nursing, Illinois used auto-tutorial learning for its total curriculum which was divided into thirteen Nursing Modules (Dunsmore, 1977). Myers et al (1978) give an account of the incorporation of auto-tutorial instruction into the fundamentals of Nursing Courses at the Medical University of South Carolina College of Nursing. Faculty had become dissatisfied with the repeated teaching of basic nursing skills by use of didactic methods and as they had an active resource centre they decided to introduce the auto-tutorial approach.

The auto-tutorial method was not usually possible unless institutions had learning resource centres (L.R.C.). Setting up these centres was another general trend throughout the 1960's. Learning resource centres provide information for students in a variety of media including books, articles, charts, models, audio-visual equipment such as tapes, slides, and videotapes and computers. Wittkopf (1972) describes a most sophisticated "learning centre" which was set up in the College of Nursing at South Dakota University during the 1960's. It comprised a dial-access laboratory with 55 carrels, a simulated nursing unit, a closed circuit television system installed in a local hospital and video tape equipment.

One adaptation of the Postlethwaite Audio-Tutorial Method was the production of what was called the Minicourse, (Postlethwaite and Russel (1971)). This was a very short module dealing with a single specific subject. Wittkopf (1972) when describing the use of the learning centre at the College of Nursing in South Dakota reports the successful use of single concept tape/slide and video programmes to emphasise particular points or to provide quick answers at the time the student wants them. Blatchley et al (1978) developed 39 self-study "minicourses" for second year students
in the nursing degree programme at Purdue University, Indiana for a one semester medical-surgical nursing course.

Marson (1977) and Townsend (1980) both address the learning resource movement in nurse education in the United Kingdom. As with other methods which have been mentioned its innovation over here was later than in the U.S.A. and to my knowledge the sophisticated methods described by Wittkopf in South Dakota in 1972 have not as yet been replicated anywhere in the U.K. However most schools of nursing do have some form of learning resource centre.

In the later part of the 1960's three new systems of individual study courses emerged in quick succession, namely, Contingency Management (C.M.), Individually Prescribed Instruction (I.P.I.) and the Personalised System of Instruction (P.S.I. or Keller Plan).

Contingency Management attempts to deal with a broad range of behaviours and is not limited to purely academic subjects. It was first used in a special school where the learning of behavioural and social skills were of equal importance. Teachers applied behavioural (operant) techniques to a varied range of behaviours without resorting to punitive measures. Adaptations of this method did spread to academic classrooms when they usually involved contractual arrangements between teacher and student (McMichael and Corey (1969)).

Individually Prescribed Instruction is based on the idea that the Instructional System should be fitted to the individual and vice versa. There is an emphasis on the assessment of the initial level of knowledge for each student and the construction of a learning sequence appropriate to this level. This often involved a variety of methods of material presentation. (Goldschmid and Goldschmid (1973))

F.S. Keller (an American Professor of Psychology) and his associate psychologists, R. Azzi, C.M. Bori and J.G. Sherman, were of the same theoretical persuasion as Skinner and had been impressed by the teaching machine and programmed text movement. They were also struck by what they
had seen of a course of Natural Science set up by Professor Skinner at Harvard which used the theory of operant conditioning as well as one with a similar theory base on Behavioural Technology at the Institute for Behavioural Research, Silver Spring, Maryland set up by Charles Ferster (Ferster and Perrott (1968)). When considering the teaching method for a new course in psychology at the University of Brasilia and being dissatisfied with conventional approaches, Keller (1968) stated in his now classical paper "Goodbye, Teacher":-

"It was quite natural, I suppose, that we should look for fresh applications of reinforcement thinking to the teaching process."

(p 80)

The method which resulted has come to be known as the Personalised System of Instruction (P.S.I.) or the Keller Plan or Self Paced Study. This method came to dominate the individual study movement to such an extent that it is now taken to cover Contingency Management and Individually Prescribed Instruction (Bridge (1977)). The introduction of P.S.I. heralded the great expansion of distance learning which occurred in the 1970's.

The five basic features of P.S.I. as stated by Keller (1968) are:-

"1) The go-at-your-own-pace feature, which permits a student to move through the course at a speed commensurate with his ability and other demands upon his time.

2) The unit-perfection requirement for advance, which lets the student to ahead to new material only after demonstrating mastery of that which preceded.

3) The use of lectures and demonstrations as vehicles of motivation, rather than sources of critical information.

4) The related stress upon the written word in teacher-student communication; and, finally:

5) The use of proctors (undergraduate tutors), which permits repeated testing, immediate scoring, almost unavoidable tutoring, and a marked enhancement of the personal-social aspect of the educational process."

(p 83)
In a P.S.I. (Keller Plan) course the material is divided into written units which the students work through on their own and at their own pace. The units usually start with an introduction and a list of objectives. Ways of achieving these objectives are suggested. Although ready printed notes or referring to text books is the most common method of study other media such as audio-visual materials may be used or certain practical work or experiments may be included. Self-tests may be incorporated to help the student to decide if he has mastered the work before presenting himself for official testing. During the official test periods students are able to confer with their peers or ask for tutorial advice as well as taking the test. These are usually quite short, only lasting about twenty minutes. When marking the test the tutor also discusses the content with the student to check his understanding and assist in any difficulties. If the student passes the test he goes on to the next unit: if he fails, he must do more work on the unit and retake another version of the test. Failure on unit tests does not affect his final assessment in any way. Lectures and demonstrations are voluntary and are not used as the main vehicle of information. They are included for enrichment and motivation purposes and to provide the class with activities as a group.

Keller emphasised the importance of feedback in this method and the resulting reinforcement which it gives to the student. Though based on Skinnerian learning theory he had added the elements of personal, individual interaction with tutors.

Sherman (1976) identified four major developments for P.S.I. (Keller Plan) during the preceding decade:

Firstly, its spread from its origins in psychology to physics and engineering and then more recently beyond the physical sciences to the social sciences and humanities. In the States P.S.I. courses had been introduced at all levels of education from the second and third grade to advanced graduate courses. These courses were run in all kinds of
colleges and universities in programmes ranging from two to four years. Hogstel (1976) describes the introduction of a P.S.I. (Keller Plan) Course in Nursing at Harris College of Nursing, Texas Christian University, Fort Worth where Dr. Keller was a visiting Professor. The content of the course, which ran for over a year, was similar to that usually taught in an introductory nursing course. It was divided into thirty study units and included audio-visual materials and one unit used computer-assisted instruction. Three senior nursing students were employed as proctors to administer and discuss tests with students. Students who registered for the course had the option of taking the regular classroom sessions or the P.S.I. course. Evaluation of this course will be discussed in section 2.3 b.

The second development which Sherman (1976) identified was the implementation of P.S.I. beyond the single course into sequences of courses or entire colleges such as the University of Texas in Austin and College IV in Michigan both of which use self-paced, mastery orientated instruction on a large scale.

Thirdly, Sherman (1976) notes that P.S.I. was beginning to become institutionalised. Publishers had begun to reproduce the learning materials and a Journal of Personalised Instruction was to begin publication that year. The Center for Personalised Instruction which had been set up at George Town University was supported by several eminent institutions including the Carnegie Corporation of New York. The Governments of Brazil, Mexico and Venezuela and U.N.E.S.C.O. had supported P.S.I. projects. A large research project had been supported by the Sloane Foundation at the University of Texas. Coffey (1975) published a book of "Modules for Independent-Individualised Learning in Nursing". It was the result of six years of collaboration with nurse teachers and students throughout the United States and Canada. It gives classic information on individualised learning including ways of
planning and implementing courses. It includes individualised
learning units for all aspects of basic nursing care and an
excellent bibliography.

Finally Sherman (1976) highlighted the changing direction
of the research picture relating to P.S.I. There had been a
large amount of early studies (about 150) which only set out to
compare P.S.I. to traditionally taught courses. He felt that
these had become redundant and welcomed the fact that current
research was addressing broader issues such as a component analysis
of the system. More details relating to research on P.S.I. and
other individualised methods of learning are included in
section 2.3b.

It is interesting to note that Boud, et al (1975) stress the limited application of P.S.I. in the
United Kingdom at about the same time as Sherman's writings.

"P.S.I. has been used mainly in tertiary education,
and our own experience includes only science and
engineering subjects in universities in Great Britain.
It has been introduced in isolation from other course
changes and on the initiative of the course tutor,
so that no single degree programme includes more
than one or two such courses amidst a majority of
traditional courses."

(p 15)

Elton et al (1973) described the first Keller Plan
courses to be introduced into the United Kingdom at the
University of Surrey in 1971. Three such courses were set
up: introductory mathematics, second year quantum mechanics
and first year classical mechanics. Poole (1974) followed
Professor Elton's initiative by introducing another Keller
Plan Course at the University of Surrey on organic chemistry
(Bridge (1977)).

Gradually the use of Keller Plan courses started to
grow in the United Kingdom, first in physics and chemistry
(Freemantle (1976)) and later in mathematics (Bridge and
Laurillard (1975) and Cohen and D'Inverno (1977)). Widden
(1977) established a course in engineering science in which
he used undergraduate "proctors" which was unusual in the
United Kingdom where lecturers usually marked and discussed
the students' tests. Stoward (1976) reported that teachers of medicine had started to experiment with the method.

Sheahan (1979) is the first to mention the use of the Keller Plan in nurse education in the United Kingdom. His paper describes the evaluation of a workshop for teachers of nursing on an individualised teaching and learning strategy which was held at Huddersfield Polytechnic in 1979. The paper by Stoward (1976) was on the reading list for the workshop. The use of the Keller Plan was the central theme of the workshop and Sheahan's (1979) paper gives a clear background literature and bibliography. Formal evaluation of the workshop revealed that -

"a group of experienced teachers of nursing consider that the Keller Plan is relevant to the education of nurses."

(p 657)

A point which emerged from the course evaluation which is relevant to my own study is that some of the course members saw the possible use of the Keller Plan in relation to ward experiences. Sheahan (1979) states:--

"The point was made that since it is now common practice to write objectives for experience on wards, it would be an extension of this practice to write Keller Plan units for each period of ward experience. Each ward would of course have to be equipped with appropriate learning resources if this system was to work. But if it did work, it was suggested that it would be a contribution in drawing the school of nursing and the wards of the hospital closer together, thus helping in solving a long-standing problem."

(p 654)

Pearson (1978) also suggested that the introduction of structured individual self-instruction to the ward areas might well be an exercise that brought fruitful co-operation between school and ward, using the experience of sisters and clinical teachers together rather than in opposition and focusing on the teaching material afforded by the ward, rather than on problem students or students at particular stages of training.
Sheahan (1980) makes further reference to the Keller Plan when discussing a progression from teacher-centred to student-centred teaching and learning strategies in a paper which addressed "Some aspects of the teaching and learning of nurses". He represents this progression diagrammatically as illustrated in Figure 2.9.

Figure 2.9

A diagram to show progression from teacher-centred to student-centred teaching and learning strategies

Sheahan (1980) (p 499)
Sheahan (1980) sees the whole spectrum of strategies as being relevant to the teaching and learning of nursing:—

"For someone new to nursing, lectures and demonstrations may well be appropriate. As the learner’s stock of information builds up the use of strategies involving discussion would be called for. As a means of providing variety in the curriculum (also as a means of giving the learner independence from the teacher) assignments, individualised teaching and learning strategies such as the Keller Plan, and projects, would be appropriate in nursing education. It is unlikely that student-centred teaching and learning strategies would extend beyond the project point. Research, which in any case requires special training, is only likely to be tackled after qualifications."

(p 498)

Logue (1984) gives the first written account of the use of the Keller Plan in nurse education in the United Kingdom in a paper describing a scheme which he introduced at Huddersfield Royal Infirmary. Having been introduced to the concept by Sheahan he used guided study units based on the Keller Plan for the anatomy and physiology component in the Introductory Course. In his conclusions Logue (1984) states:

"It should be stressed that the use of Keller Plans is complementary to other forms of teaching and learning, and should not be seen as a way of replacing all other methods. They should be seen for what they are - one method of encouraging self-initiated learning, of increasing independent thought and creativity and moving nurse education into the realms of what is termed Higher Education."

(p 111)

Bridge (1977) reports that many of the teachers who took up the Keller Plan (P.S.I.) experimented with different features of it, and as a result most courses deviated in some respect from Keller's five key points. Included in the diversifications from the original Plan which were commonly made were the use of terminal exams as opposed to unit tests and continuous assessment, the use of lecturers as opposed to undergraduates as proctors, teacher paced courses where time limits were set for completion of units and Keller Plan courses which ran parallel to a compulsory lecture course.
Bridge (1977) suggests that the generic term -
"individual study courses" (p 21/22)
is a better description of the majority of courses which evolved. In 1975 Bridge had carried out a survey of individual study courses (predominantly in the sciences) in higher education in the United Kingdom. Bridge (1977) said that the most general aim of this survey was to -

"gather together the existing experience of a family of innovations in higher education for the benefit of teaching staff either using, or considering use of these methods. It also had a summative purpose, in that it aimed to assess the extent to which the courses had achieved the different goals set by the teaching staff adopting them."

(p 3/5)

In May 1975 fifty-one staff using individualised study courses were located (this includes those who were using Keller Plan courses). Some of these staff ran more than one course, so supplied details of each one on the questionnaires which were issued. Overall forty-three questionnaires were returned for analysis.

Twenty-five of these individual study courses were in universities, nine were in polytechnics and the remaining three were in colleges of education and of technology. The subjects covered were as follows:-

18 courses in the physical sciences
(9 of which were in physics)
9 courses in engineering
5 courses in mathematics
5 courses in social sciences
Other subjects included Mineralogy, Computing and Zoology.

Courses were introduced during all three undergraduate years though the majority were in the first year and on average lasted about sixteen weeks. There were also several pre-first year courses such as college "A" level courses and the Scottish first year. There was one M.Sc. course. Overall these
individual study courses were only one of an average of five courses taken by students at any one time.

The class sizes ranged from 10 to 800 students although the majority were between 10 and 50 students. The average amount of experience which teachers had had with these courses was about two years although (in 1975) some were still running their first course.

The way in which these courses were staffed varied enormously. Some courses had no additional help at all whereas others were assisted by extra staff members, postgraduates or teaching assistants. Bridge (1977) comments:–

"In three courses the conversion to individual study had brought about all of the department into active involvement in the course for the first time, when, for example, each staff member contributed one written or attended one class session per week."

(p 3/11)

The reasons which teachers gave in Bridge's (1977) survey for the introduction of individual study courses are of particular interest. They are summarised as follows:–

1) Dissatisfaction with the pre-dominance of lecture based courses and the widespread acceptance of 50% comprehension.
2) Belief that students do not cover material at a uniform pace with lectures.
3) Dissatisfaction with exam results using lectures.
4) Dissatisfied with their failure to deal with differing student prior knowledge when teaching by lecture.
5) Attracted by two potential advantages of individual study courses:–
   a) the possibility of improving the teaching process
   b) the potential for increased independence of learning by the student
6) Desire to help weak students in particular by giving individual help.
7) Desire that students should learn how to arrange their study effectively.
8) Desire to present the study in a more enjoyable form.
9) To motivate students to work hard on a particular course.

The main reasons given by teachers (30) who specifically used the Keller Plan were:

1) Personal contact with someone who has had experience of a Keller Plan course.

2) Sabbatical visits to the U.S.A. together with inter-university projects.

3) The success of the Open University course unit system.

The results of Bridge's (1977) survey which relates to the effectiveness/evaluation of individual study courses will be commented on in section 2.3b.

Although no similar survey to that of Bridge (1977) has ever been carried out in nursing education it is possible to indicate the amount of diversification (including that of the terminology used) of individual study courses by looking at the literature. This also highlights the wide range of topics which have been covered both in basic and continuing nurse education. Although not necessarily a complete list, Tables 2.10, 2.11 and 2.12 give an overview of the trends and developments of individual study courses in nurse education in both the United States and the United Kingdom. A few Australian references will also be cited.
<table>
<thead>
<tr>
<th>Author/Year</th>
<th>Title Given to Individual Study Course</th>
<th>Venue</th>
<th>Topic Covered. Type of Student</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quiring (1972)</td>
<td>&quot;The Autotutorial Approach&quot;</td>
<td>Pennsylvania State University</td>
<td>Injection Techniques (First Year Students)</td>
</tr>
<tr>
<td>Hegge (1973)</td>
<td>&quot;Learning Packets&quot;</td>
<td>South Dakota State University College of Nursing</td>
<td>Community Health Nursing (Senior Students)</td>
</tr>
<tr>
<td>Hogstel (1976)</td>
<td>&quot;Keller Plan&quot; (P.S.I.)</td>
<td>Harris College of Nursing, Fort Worth, Texas</td>
<td>Introductory Course Nursing (First Year Students)</td>
</tr>
<tr>
<td>Furnell and Thompson (1976)</td>
<td>&quot;Independent Study Modules&quot;</td>
<td></td>
<td>Maturational Problems of Individuals and Families (Third Year Students)</td>
</tr>
<tr>
<td>Dunsmore (1977)</td>
<td>&quot;Autotutorial Learning&quot;</td>
<td>Evanston Hospital School of Nursing, Illinois</td>
<td>Entire Basic Nursing Course - 13 Nursing Modules (Students)</td>
</tr>
<tr>
<td>Lenburg (1977)</td>
<td>&quot;External Degree in Nursing Programme&quot; (National and International Programme)</td>
<td>New York Regents</td>
<td>Associate and Bachelor's Programmes in Nursing</td>
</tr>
<tr>
<td>Pensivy (1977)</td>
<td>&quot;Learning Experience Guides&quot; (L.E.G.S.)</td>
<td>Broward Community College, Fort Lauderdale, Florida Program</td>
<td>Two Year Associate Degree Nursing Programme</td>
</tr>
<tr>
<td>Mains (1977)</td>
<td>&quot;Packets for Individual Modular Learning&quot;</td>
<td>Mercy Hospital School of Nursing, Des Moines, Iowa</td>
<td>Nursing Course</td>
</tr>
<tr>
<td>Ray and Clark (1977)</td>
<td>&quot;Independent Study Units&quot;</td>
<td>The Intercollegiate Center for Nursing Education, Skills Washington</td>
<td>Variety of Subjects Including Nursing</td>
</tr>
<tr>
<td>Blatchley et al. (1978)</td>
<td>&quot;Self Study Minicourses&quot;</td>
<td>Purdue University, West Lafayette Indiana</td>
<td>Variety of Subjects (Second Year Nursing Degree Students)</td>
</tr>
<tr>
<td>Author/Year</td>
<td>Title Given to Individual Study Course</td>
<td>Venue</td>
<td>Topic Covered, Type of Student</td>
</tr>
<tr>
<td>------------------</td>
<td>-----------------------------------------</td>
<td>----------------------------------------------------------------------</td>
<td>--------------------------------</td>
</tr>
<tr>
<td>Myers and Greenwood (1978)</td>
<td>&quot;Autotutorial Instruction&quot;</td>
<td>Medical University of South Carolina, College of Nursing</td>
<td>Fundamentals of Nursing Course. (First Year Students)</td>
</tr>
<tr>
<td>Paduano (1979)</td>
<td>&quot;Independent Study (with contracts) &quot;</td>
<td>Pace University New York, Nursing School</td>
<td>Various Topics for Marginal and Failing Students</td>
</tr>
<tr>
<td>Gentine (1980)</td>
<td>&quot;Portable Self-Learning Packages&quot;</td>
<td>Lakeside Technical Institute, Cleveland, Wisconsin</td>
<td>Variety of Topics for Ward Staff Who Are Unable to Attend Lectures (Qualified Staff)</td>
</tr>
<tr>
<td>Pritchett (1983)</td>
<td>&quot;Independent Study Units&quot;</td>
<td>University of Southern Mississippi School of Nursing</td>
<td>Variety of Topics for I.T.U. Staff (Qualified)</td>
</tr>
<tr>
<td>Author/Year</td>
<td>Title Given to Individual Study Course</td>
<td>Venue</td>
<td>Topic Covered. Type of Student</td>
</tr>
<tr>
<td>-------------</td>
<td>----------------------------------------</td>
<td>-------</td>
<td>--------------------------------</td>
</tr>
<tr>
<td>Townsend (1975)</td>
<td>&quot;Individualised Learning Packages&quot;</td>
<td>Queen Elizabeth School of Nursing, Birmingham</td>
<td>Exploring the Production of Learning Packages</td>
</tr>
<tr>
<td>Sheahan (1979)</td>
<td>&quot;Keller Plan&quot;</td>
<td>Huddersfield Polytechnic</td>
<td>Workshop for Teachers of Nursing</td>
</tr>
<tr>
<td>Sellek (1981)</td>
<td>&quot;Assisted Independent Learning&quot;</td>
<td></td>
<td>Suggested as a Method to Stimulate Critical Thinking and Problem Solving in Students</td>
</tr>
<tr>
<td>General Nursing Council (1982)</td>
<td>&quot;Learning Package&quot;</td>
<td>Published Nationally by Learning Materials Design</td>
<td>Aspects of Sick Children's Nursing, for Post-Registration Students</td>
</tr>
<tr>
<td>Coutts and Cohen (1983)</td>
<td>&quot;Independent Study&quot;</td>
<td>Normanby College, London</td>
<td>Introductory Course for Basic Students</td>
</tr>
<tr>
<td>Bond (1984)</td>
<td>&quot;Open University Pack&quot; A Systematic Approach to Nursing Care</td>
<td>National Publication</td>
<td>The Nursing Process</td>
</tr>
<tr>
<td>Logue (1984)</td>
<td>&quot;Guided-Study Units&quot; based on Keller Plan</td>
<td>Huddersfield Royal Infirmary</td>
<td>Anatomy and Physiology for Introductory Course Students</td>
</tr>
<tr>
<td>Robinson (1984)</td>
<td>&quot;Distance Learning&quot;</td>
<td>Distance Learning Centre, Polytechnic of the South Bank</td>
<td>1) &quot;Managing Care&quot; Qualified Nurses 2) Diploma in Nursing 3) Research Awareness Package All for Qualified Nurses</td>
</tr>
<tr>
<td>Johnson (1985)</td>
<td>&quot;Open Learning&quot; for nurses</td>
<td>Barnet and Central Manchester Colleges</td>
<td>&quot;Measurement in Nursing&quot; For Qualified Nurses</td>
</tr>
</tbody>
</table>
Table 2.12 Details of Publications on Individual Study Courses in Nursing Education in Australia, 1976-1984

<table>
<thead>
<tr>
<th>Author/Year</th>
<th>Title Given to Individual Study Course</th>
<th>Venue</th>
<th>Topic Covered. Type of Student</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tibbitts et al. (1976)</td>
<td>Comparison of Five Teaching/Learning Methods Including Individual Study</td>
<td>School of Teacher Education, Canberra College of Advanced Education</td>
<td>&quot;Formation of Urine&quot; First Year Student Nurses</td>
</tr>
<tr>
<td>Jackson (1982)</td>
<td>&quot;Distance Education&quot;</td>
<td>1) Riverina College of Advanced Education, Wagga Wagga</td>
<td>Diploma of Applied Science (Nursing)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2) Armidale College of Advanced Education</td>
<td>Associate Diploma in Nursing Studies (Management)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Diploma in Applied Science (Nursing Administration)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3) University of New South Wales</td>
<td>Diploma in Teaching (Nursing)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Nursing School of the Air - Variety of Topics</td>
</tr>
<tr>
<td>Jackson (1983)</td>
<td>&quot;Distance Education&quot;</td>
<td>University of New England, Armidale</td>
<td>1) Bachelor of Arts 2) Diploma in Education</td>
</tr>
<tr>
<td>Gibbons (1984)</td>
<td>&quot;Learning Package&quot;</td>
<td>School of Nursing of Avondale College, Sydney</td>
<td>Uses in Clinical Areas to Relate Theory to Practice</td>
</tr>
</tbody>
</table>
It can be seen from these tables that the introduction of individual study in educational programmes for nurses was far later in the United Kingdom and Australia than in the States and that it has only become established over here during the present decade. The tables also illustrate the trend towards national programmes in the United Kingdom and Australia rather than the local, college based, programmes which were set up in the States. Apart from the 'External Degree in Nursing Programme' (Lenburg (1977)) which is taken by nurses across the States as well as many other countries, all the other American studies which are cited describe the introduction of individual study into single colleges or schools of nursing and quite often for a trial period only.

With the exception of two locally based individual study courses which have been reported in the United Kingdom (Coutts and Cohen (1983) and Logue (1984)) the distance learning schemes which have been publicised have all been for use nationally.

The Learning Package "Aspects of Sick Children's Nursing" which was produced by Learning Materials Design for the General Nursing Council in 1982 (GNC 79/11, 81/26 and 82/4) was the outcome of a suggestion made by the Council's Working Party set up to consider the 'Changing Role of the Sick Children's Nurse' in the light of the recommended policies of the Court Report (1976). It was felt that a centrally produced learning package which would be available nationally would not only be of benefit to students but would also encourage teachers and clinical staff to adjust to some of the proposed changes and concepts in the care of the sick child. A series of forty one day seminars were arranged throughout the country to introduce the learning package during 1982 (see Chapter 6.1) and it has since been used extensively for both basic and continuing education of sick children's nurses. In 1985 the General Nursing Council commissioned a similar "Learning Package" from Learning Materials Design on "Caring for People with Mental Handicap".
The term "Learning Package" has been coined over the past few years to cover a variety of forms of individualised instruction (study). Quinn, F. (1980) defines a "learning package" as:

"a form of individualised instruction in which a number of components are assembled together in a logical sequence and made available to assist the learner in her achievement of specified objectives. The components of any learning package are as follows:

A Rationale, Statement of the target population, Pre-requisites, Objectives, Choice of Learning Activities, Optional Activities beyond the Package, Tests (Pre-requisite, Pre-Test and Post-Test), Guidance concerning the next step of the course, Teachers' Notes."

(pp 194-196)

As well as the term "Distance Education" (Distance Learning) which was defined at the beginning of this section (Moore (1975)) the expression "Open Learning" has also been used recently. Lewis and Spencer (1986) define "Open Learning" as follows:

"'Open Learning' is a term used to describe courses flexibly designed to meet individual requirements. It is often applied to provision which tries to remove barriers that prevent attendances at more traditional courses, but it also suggests a learner-centred philosophy. Open-learning courses may be offered in a learning centre of some kind or most of the activity may be carried out away from such a centre (e.g. at home). In nearly every case specially prepared or adapted materials are necessary."

(pp.9-10).

The terms "Distance Learning" and "Open Learning" are used by Robinson (1984-) and Johnson (1985) in their description of the most recent venture in individual study courses in nurse education which have been set up in the United Kingdom on a national basis. In 1984 the Manpower Services Commission gave £600,000 to fund the first three years of a Distance Learning Centre for Continuing Education for Nurses as part
of its "Open Tech" Programme. (1) This funding is being given to two projects. The first is the Distance Learning Centre at the Polytechnic of the South Bank in collaboration with the Department of Nursing and Community Health Studies, (Robinson (1984)). The second is a joint venture between Barnet: and Central Manchester Colleges, (Johnson (1985)).

Planned in collaboration with the English National Board for Nursing, Midwifery and Health Visiting these projects evolved in response to a generally recognised need in the profession for better provision of in-service and continuing education.

A coherent framework for open learning in nursing is being developed between the two projects. This will provide access through a variety of routes from short individual study packs through to the University of London Diploma in Nursing which will consist of six units, each one involving about six months' part time study (to commence in Autumn, 1987).

An increasing number of nurses study with the Open University both at degree level and by following short courses and packs. Bond (1984) describes the preparation of the Open University Pack "A Systematic Approach to Nursing Care", which was the first Open University Course to be specifically designed for practising qualified nurses or those who wish to return to nursing.

(1) The Manpower Services Commission entered the arena of open learning in the early 1980's when it set up its "Open Tech" Programmes. Many Open Learning Courses have been set up at a variety of institutions throughout the country to serve industry and commerce as well as the professions. Open Tech projects are expected to earn income to survive after a limited period of grant aid (Lewis and Spencer (1986)).
Bond (1984) states:-

"Nursing has somewhat lagged in the production of distance learning. While some nurses have studied with the Open University in degree courses as well as those produced by the Health and Welfare Section of the Centre for Continuing Education, and some have recently taken Open University management courses, this pack (A systematic approach to nursing care) is the first to be used exclusively and judging by the initial orders for the course, extensively by nurses."

(p. 108)

Bond (1984) goes on to stress the importance of proper evaluation of this pack both from the point of view of its content as well as examining the concept of distance learning embodied in the materials which are produced. This particular Open University Pack combined individual learning with a series of group sessions designed to assist group members to review their learning as well as to extend it in unison with their colleagues. Bond comments:-

"If these methods prove to be acceptable, then there could be a major market for similar courses in continuing nurse education."

(p. 108)

Clarke (1986) writing on "Recent Developments in Self-Directed Learning" in Canada and the United States cites instances of the spread of Self-Directed Learning in continuing nurse education to orientation programmes, staff development, management training programmes and an Intensive Care Nursing Course. She also describes the Self-Directed Learning Network (SDL Network) which was created in 1983 to connect nurses and other health workers interested in promoting, facilitating and studying self-directed learning in health care. This Network has members throughout the U.S.A. and Canada and exchanges information through national meetings and a three monthly Newsletter.

Two similar information systems on various methods of individualised learning in nursing education exist in the United Kingdom. The first one which concentrates on Computer
Assisted Learning was formed in 1982. Named the "Network of Users of Microcomputers in Nursing Education" (N.U.M.I.N.E.) it is an organisation of individuals working in both Nursing Education and Nursing Practice. N.U.M.I.N.E. organises regular study days and exhibitions and produces a quarterly newsletter which is published by The English National Board, Learning Resources Unit, Sheffield.

The second information system is organised by the Distance Learning Centre at the Polytechnic of the South Bank which was described earlier in this section. It also produces a quarterly newsletter the first of which was released in the summer of 1985. This publication aims to keep nurse managers and teachers up to date with developments in distance learning. And so, in 1987 the use of Distance Learning in nursing education in the United Kingdom is expanding rapidly, particularly through schemes which are organised on a national basis. As yet however little research has been carried out on the use of distance learning in nurse education in the United Kingdom particularly at ward level.

2.3a Summary

This section has examined the literature relating to the psychological basis, evaluation, characteristics and uses of distance learning. Starting in the United States of America in the early 1960's with the introduction of teaching machines and programmed instruction the theme moved on to the end of the decade to the development of systems of individualised learning such as the Postlethwaite Auto-Tutorial Method and the Keller Plan (P.S.I.). The great expansion of individualised study in the 1970's is then discussed in both general and nursing education. The final part of this section concentrates on recent developments in distance and open learning in nursing education, particularly in the United Kingdom.
2.3.b Distance Learning. Relevant Research Findings in General and Nursing Education

Ruskin and Hess (1974) included over 200 research papers in their review of the literature on the Personalised System of Instruction. Cross (1974) found both the quantity and quality of research generated by P.S.I. unique in the history of education. All this was over ten years ago and relates specifically to American research. Since then a lot more studies have been carried out in the States and to a lesser extent in the United Kingdom. By far the majority of these studies relate to general and particularly higher education. However the literature does include some which investigate the use of individual study courses in nursing education although these are rather sparse and generally report small local studies. During the 1970's the nursing literature came exclusively from the U.S.A. and Canada but since the turn of this present decade a few have emerged from the United Kingdom and Australia.

In this section of the chapter I propose to examine the findings from these studies which are most pertinent to my own. Of necessity these will mainly be taken from the field of general education but where possible I will include results from the nursing literature.

During the 1970's there were several reviews of the research literature relating to the use of individual study courses both in the States and the United Kingdom.

American publications were the most numerous. (Ruskin and Hess (1974); Kulik, Kulik, and Carmichael (1974); Kulik and Kulik (1975); McKeachie and Kulik (1975); Kulik Kulik and Smith (1976); Traveggia (1976); Stice (1976); Ruskin and Ruskin (1977); Kulik and Jaks (1977); Peterson and Walberg (ed) (1979))

Publications in the United Kingdom were not as proli fic as the States (Elton, Boud, Nuttall and Stace (1973); Boud, Bridge and Willoughby (1975); Bridge and Elton (eds) (1977)).
Although the majority of these publications include accounts of studies which compare P.S.I. with the lecture method they do include many other types of individual study courses. This applies particularly to the U.K. literature where diversification from the original P.S.I. (Keller Plan) was more common.

The three elements which were investigated most frequently both in the States and the U.K. were students' reactions (attitudes) to the course, end of course achievement and long term retention. The use of proctors, the inclusion of lectures, the mastery requirement and the time taken to complete units were also examined in many of the studies. More recently additional elements have been investigated such as the cost of courses both as regards preparing the materials and running the courses, students' study habits and approach to learning, the changing role of the teacher and reasons why people participate in self study.

I intend to discuss each of these elements under separate headings.

2.3 b (1) Students' Reactions (attitudes) to Individual Study Courses

Almost every published report on individual study courses includes a formal or informal evaluation of student reaction (Bridge (1977)).

The American research shows that most students agree that it is an attractive teaching method (Kulik et al (1974) (1975) (1976); Traveggia (1976) and Stice (1976)). The first of these papers states:-

"The most convincing of all student rating studies are those which compare a P.S.I. course with a conventionally taught course." (Five studies are then cited which make a methodologically sound comparison. All are favourable)
"The attractiveness of the plan to students therefore seems no longer a matter of controversy."

These findings have not subsequently been challenged. However Kulik et al (1976) do point out that investigations have documented their findings regarding students' reactions in different ways. Some have collected open-ended course evaluations from students,

"Judging from published reports, only one or two students in a typical class of fifty react negatively to the P.S.I. format."

Kulik et al (1976) (p 24)

Other investigations have asked for comparisons between P.S.I. courses and typical lecture courses they have taken in college. Kulik et al (1976) cite a representative study where 70% of the P.S.I. students consider the method better than the lecture approach, 20% consider the two methods about equal and 10% prefer the lecture method. Finally they comment that a number of investigations have compared student ratings from P.S.I. courses to ratings from conventionally-taught courses.

"In 8 out of 9 courses P.S.I. ratings are higher than those from lecture courses."


Self pacing and interaction with tutors seem to be the features most favoured by students (McKeachie and Kulik (1975)).

Bridge (1977) confirms that the U.K. literature relating to students' evaluations of Individual Study Courses are also generally positive although there are a few which highlight unfavourable student reactions (Freemantle (1976)). The main disadvantage which emerged was with self pacing. Some students find it easy to procrastinate by putting off or delaying their study. Also in courses where teachers do not require a high degree of mastery of units some students do not feel very confident of their knowledge of the material even when they have passed the test.

There are four studies in nursing education where students' reactions to individual study courses are favourable.
Hogstel (1976), Blatchley et al (1978) and Dunsmore (1977) are three American studies which show positive findings. In their conclusions to a study where second year Degree Course Nursing Students used "Minicourses" for a Medical/Surgical Nursing Course, Blatchley et al (1978) confirm the findings of McKeachie and Kulik: (1975) when discussing the features of individual study which are most favoured by students:—

"It seems clear that most students like the self-study approach. Student satisfaction with the course and willingness to take another like it were evident during the project and have continued in succeeding classes. Apparently the greatest advantage of the system is the opportunity it provides for students to work at their own pace, repeat content as needed and decide for themselves when they will study. Another strength has been the active involvement of experienced and supportive instructors who are available at the "learning centre" where the mini-courses are given to provide both encouragement and answers to questions."

Blatchley et al (1978) (p 447)

The only U.K. study (Logue (1984)) also reports that students (introductory course nurses) found individual study a successful method of learning "on the whole" and that they remained "interested and well motivated" throughout the course. However this was only a small study involving a single group of students.

2.3b(2) End of Course Achievement

Student achievement on a final exam is the most commonly used measure of effectiveness of college teaching methods (Kulik, Kulik and Smith (1976)). Not surprisingly therefore it has been frequently used when assessing the effectiveness of Individual Study Courses. Kulik et al (1975, 1976, 1977) and Traveggia (1976) produce very convincing evidence based on a large number of studies of sound experimental design that in almost all cases individualised learning was superior to the lecture as regards end of course achievements. However Bridge (1977) argues that these studies did not take into account the "Hawthorne effects" produced when introducing a new course particularly as regards the commitment of the teacher. This would be likely to be very strong in P.S.I.
but not necessarily so with the lecture method.

Bridge (1977) also claims that teachers (particularly social scientists) who got results which favoured the lecture would be unlikely to publish, not wanting to admit that individualised study courses were not a success. This again puts into question the consistently positive results which have been published. Bridge therefore concludes that the results produced by Stice (1976) are the most accurate. Although strongly favouring the individual study course these did show some variation in students' end of course achievement when comparing it with lecture courses.

Lange (1972) and Pensivy (1977) both found that statistically there was no significant difference in end of course achievement between nursing students who were in a traditional or an individual study course. However Pensivy (1977) makes the important point that final examination results did not suffer as a result of individualised nursing instruction.

2.3b(3) **Long Term Retention**

A number of researchers have looked beyond the final exam and tried to determine long term retention of facts, principles and concepts in students who have followed individualised study courses.

Kulik, Kulik and Smith (1976) located nine studies of long-range retention of P.S.I. course content. These studies reported on retention over intervals ranging from three weeks to fifteen months after completion of a course. In each of the studies, the P.S.I. students performed better on a follow-up examination than students from lecture courses, and in each study the difference between groups reached statistical significance. In most studies, differences at the time of follow-up were greater than final exam differences. In these studies the average retention score for P.S.I. students was 24% higher than the average retention score for students in conventional classes.
As with the results from studies on end of course achievement, Bridge (1977) again makes the point that the uniformly positive results which are reported by Kulik et al (1976) may have arisen from selective publication.

Hogstel (1976) is the only study in nursing education which refers specifically to retention of learning following a P.S.I. course. However, the method by which this was evaluated differed from those which were carried out in the general field. Hogstel (1976) looked at the way students who had followed a P.S.I. course performed in two subsequent nursing courses as a method of evaluating retention. (No details are given as to the nature of, or the method used for these courses.)

"The control group of students who had the nursing course by the regular classroom method made slightly higher course grades in the subsequent courses than did the students who had been in the P.S.I. section, but neither of these differences were statistically significant when determined by the t-test."

(p 112)

In the students' own evaluation of the course in Hogstel's (1976) study 70% of them said they retained more information if they had learned using independent study than they did by the lecture/demonstration method.

2.3b(4) The Mastery Requirement

Ruskin and Ruskin (1977) comment that the mastery requirement in individual study courses has produced extremely interesting research. They cite several studies which indicate that students will perform at any level required by the instructor. Johnston and O'Neill (1973) found that if students are given only the option of A level mastery, the student will perform at that level, whether it is defined as the 90% or 60% level. Whitehurst and Whitehurst (1975) found that in courses where students were given a grade option (i.e. passing 12 units for an A, 11 units for a B, etc) students will settle for a grade less than an A, whereas if only given the option of an A or an F, students will pass more units.
Dustin (1971) found that students are much more likely to gain successful mastery if study units are small and evaluation procedures (i.e. testing) are frequent. A study by Calhoun (1973) emphasises the importance of immediate feedback to students following testing. Where feedback was delayed examination scores were significantly lower.

Ruskin and Ruskin (1977) also give examples of studies which indicate that instructor expectations and standards have a great influence on the ultimate level of student achievement. Davis, M. L. (1975) found that the higher the required level of mastery the greater the student exam performance on unit quizzes. Bostow and O'Connor (1973) found that in comparison with students allowed only one quiz or exam performance with no mastery requirement, students permitted to re-take quizzes until the desired level of mastery is attained earn higher major exam scores.

In a United Kingdom publication by Willoughby and Boud (1973) findings are reported which indicate that when mastery is required of all students, the quantity of course material must be reduced, probably by one third. They point out that over-loading of courses has been shown to be a factor which contributes to procrastination. It was found that most courses contain more material than it is reasonable to expect an average student to really master.

Logue (1984) in a U.K. study in nursing education also mentions the problem of overloading students with too much material which they are expected to master. In an introductory course where all the Anatomy and Physiology was presented in the form of individual "Guided Study Units", each of which had to be completed by a certain date, Logue states:-

"The programme of teaching all the anatomy and physiology in this way was too ambitious in that all Keller-like systems are meant to operate at the students' own pace and, as such, take time because reading is slower than listening. Time is something nurse education does not give its students, and as a consequence the stresses I had hoped to reduce in the students were not lessened (by letting them go at their own pace) and in some students may have
been greater than if other methods had been used."

(p 110)

Two American studies in nursing education, Lange (1972) and Myers and Greenwood (1978), although not mentioning mastery specifically do stress that the number of high (A and B) grades obtained by the students using auto-tutorial instruction had increased significantly compared with courses which were taught by more conventional methods.

Boud, Bridge and Willoughby (1975) carried out a survey of eight Keller Plan practitioners in the U.K. in an attempt to ascertain the reasons for adopting a P.S.I. approach and to determine the factors in the method that were regarded as most important, both initially and after some experience of the method. One of the four main views which were concluded from this survey was:--

"Mastery was seen as the most important element, both initially and in practice. The subject was one that demands progressive mastery of the material, so that the demands for mastery before progress in P.S.I. was appropriate for this situation."

(p 20)

2.3b(5) The Use of Proctors

"The presence of the proctor in the classroom has been hailed by many as the major "personalizing" factor to be found in any system."

Ruskin and Ruskin (1977)

Several studies have been carried out using alternative methods of student feedback to the use of proctors as first proposed by Keller (1968).

Bostow and Blumenfeld (1972) found that student performance increased even when they graded their own quizzes, and Calhoun (1975) found the use of external or advanced undergraduates as proctors to be effective. Elton (1973) in one of the first Keller plan courses to be carried out in the U.K. found that the structured nature of the test sessions
students (211) used self-study "minicourses" as their main source of learning.

"Of the three experimental classes, the first group (E1) was taught one-quarter of the total content in self-study and the remainder in lecture-discussion: the second group (E11) had one-half self-study; and the third group (E111) had three-quarters self study."

(p 445)

It was found that the third group (E111) appeared to be the best proportion for getting good results (in post-tests) i.e. three quarters "minicourse" and one quarter lectures (which in this case were compulsory). These results would have been more convincing if a fourth group had been included who did not receive any lectures at all.

2.3b(7) The Time Taken to Complete Units

Several studies have been carried out in order to ascertain whether the use of individual study courses makes reasonable time demands on students. Kulik and Jaksa (1977) comment that the early self-report studies suggested that students put more time and effort into P.S.I. courses. However they go on to state that more recent studies, using an improved methodology have different findings. In an observational study at the University of Utah students were monitored to ascertain the amount of study time they spent on both P.S.I. and lecture courses. The average study time of students in the P.S.I. section was 45.5 hours and in the lecture section it was nearly equal at 19 hours for lecture attendance and 30.2 hours of study time. Other investigations have since confirmed the University of Utah findings. On considering the studies Bond, Bridge and Willoughby (1975) conclude:-

"The added concentration and effort that a student is likely to spend in mastering a P.S.I. unit, compared with taking lecture notes say, perhaps causes the students to feel that they spend more time, whereas it is rather that, in any given period of time, they work more concentratedly."

(p 27)
2.3h(8) **The Cost of Courses**

Lawson (1980) defines three components which need to be measured in order to estimate the cost of individual study courses:–

a) the absolute cost of equipment and materials,
b) the time required to prepare the programme,
c) the subsequent teaching time saved.

The absolute cost of equipment and materials will of course vary tremendously depending on the type of media which is used i.e. computers, video tape, audio tapes, slides or print only. These costs are easy to estimate and as such have not been the subject of many studies.

Preparation time and the cost of running individual study courses have however been studied. In general education Boud, Bridge and Willoughby (1975); Black and Boud (1977) and Stice (1976) all agree that the preparation of course materials involve more staff time, secretarial assistance and duplicating costs than traditional courses. This is particularly true where non-print media are used.

Hogstel (1976), Coutts and Cohen (1983) and Logue (1984) are all studies in nursing education which confirm these findings:–

"Planning for and implementing the P.S.I. section took much more faculty time than was originally anticipated."

Hogstel (1976) (p. 111)

"It was hard work because to plan both independent study (IS) and inquiry method (IM) sessions required far more time in reading around the subject, checking references and arranging for resources to be available to the students."

Coutts and Cohen (1983) (p 32)

"A considerable amount of additional effort is required of the tutor preparing the units, in:–

a) the design of units;
b) stating the objectives for each unit;
c) ensuring the unit content allowed the objectives to be met."

Studies which have investigated the cost of running individual study courses show this varies depending on the size of the class and the status of the tutor (Boud, Bridge and Willoughby (1975)). Stice (1976) found in each case that individual study courses cost more to set up and run than the conventional courses they had replaced. Where proctors were unpaid and the course had run for some time, the running costs were comparable but preparation costs were certainly not recovered.

Elton (1978) concludes that the true cost of these courses is impossible to assess:–

"It is easy to demonstrate that Keller Plan cannot be as cheap as the mass lecture, particularly when the initial preparation of materials is included in the cost, but once considerations of benefit are included no easy calculations are possible. Similar conclusions have been reached in connection with distance study (Halberstadt (1977)) and indeed more generally (Fielden (1978)). As in most of education, process is at least as important as product and the long term benefit for instance on study habits of having been through the experience of a self instructional course is impossible to assess in financial terms."

(p 12)

2.3b(9) Students' Study Habits and Approach to Learning

Boud, Bridge and Willoughby (1975) state:–

"....it is probable that students on a P.S.I. course will develop different study habits than they would in a more traditional course, and that these study habits would be generally useful."

(p 26)

Several studies have found that this assumption is correct. Bridge (1977) found that students following individual study courses would undertake private study on more separate occasions than any other course, and on twice as many occasions as any other course. His study also indicated that the time they spent in doing these study sessions was shorter than in other subjects taught by traditional methods. Bridge (1977) explains the reasons for this pattern of study as follows:–
"...the continuous availability of self-study material for private study, combined with the lack of firm deadlines for completing it, encouraged the frequent but short pattern of private study noted."

Bridge (1977) (p 6/8)

Zubir (1983) found that the lecture and IL evoked different study approaches and methods:

"In the two different teaching contexts students' perceptions of what was expected of them differed. They approached their study differently as a result.

In IL, the students showed an inclination to work independently, putting more self effort and attention into their work and using "deep level processing". In IL, students may be seen to assume greater responsibility for their own learning, shifting, as it were, from 'other directed' to 'self directed' learning. It appears that in IL the SOL (Student Orientated Learner) students tended to use a 'deep' approach to learning by abstracting meanings. They were not learning for mere reproduction of facts."

(p 368)

Dunsmore (1977) describes a study in nursing education which tends to confirm Zubir's (1983) findings relating to a 'deep' approach to learning using IL. It was found in this study that the students' ability to conceptualize and integrate knowledge for clinical application matured more rapidly using auto-tutorial (independent) learning methods.

Two other studies in nursing education, Hogstel (1976) and Paduano (1979) found that students' study habits changed for the better when following courses of IL. Paduano (1979) found that when independent learning methods were used by previously marginal and failing students their attitudes towards learning changed:

"We (faculty) saw students who had a "failing" attitude, who never participated in class and who never sought help from faculty during the semester, transformed into active participants in the learning process."

(p 37)
The Changing Role of the Teacher

Keller (1968) described the changing role of the teacher who uses individualised learning for his students:

"His public appearances as classroom entertainer, expositor, critic, and debator no longer seem important. His principal job, as Frank Finger (1962) once defined it, is truly "the facilitation of learning in others". He becomes an educational engineer, a contingency manager, with the responsibility of serving the great majority, rather than the small minority, of young men and women who come to him for schooling in the area of his competence." (p 11)

Several studies have highlighted the effect of this role change both as regards the teacher and the students.

Gonzales and Gilbert (1979) show that the use of A.P.P.I.L. (Advanced Physics Project for Independent Learning) implied a change in the students' and teachers' patterns of behaviour and a change in their expectations of the role-partner. The strong "teacher-to-student-group" interaction, which exists in the traditional teaching situation, has to be replaced by "teacher-to-individual student" interactions. This study gives examples of such problems as role strain due to a conflict between the teacher's conception of his role and the students' expectations of the teacher's role:

"i.e. the teacher saw his role as an organiser, consultant, dealing with individuals, not promoting class discussion, and not needing to direct the students. The students thought that the teacher should guide them through the course, explaining the relevant points, and promoting discussion."

Gonzalez and Gilbert (1979) (p 10)

In a study investigating the use of independent study in nursing education Coutts and Cohen (1983) comment that because the teaching methods were so different from conventional courses they caused increased anxiety in the teachers:

"The anxiety was founded in their uncertainty of how much they could safely let the students do and find out for themselves. It was not until the weekly test results showed that - at least academically - the students were no worse or better than the control group, that the teachers' anxiety began to wane."

Coutts and Cohen (1983) (p 36)
Clark (1986) and Elton (1984) see an urgent need for the provision of a training for both teachers and students to enable them to work effectively when using distance learning systems. Elton (1984) states:--

"Students must develop the abilities needed for self study, for which they may be ill prepared by earlier experiences of traditional teaching, since this is often authoritarian and designed to make them into passive receptors of knowledge. Similarly teachers in distance education, whether course writers or tutors, have to acquire skills and attitudes which are quite significantly different from those to which they become accustomed in traditional teaching."

(p 226)

Elton (1984) points out the advantages of using distance teaching methods in order to train teachers in distance education.

2.3b(11) Reasons for Participation in Self Study

Clark (1986) wrote a paper on "Recent developments in Self-Directed Learning" for the Journal of Continuing Education in Nursing. In the section on the "Review of recent research" she includes details of two studies, O'Connor (1982) and Toebe et al (1982), which have investigated the reasons why nurses participate in self study. In light of the current upsurge in the production and use of distance learning materials in nursing education on a national scale in the United Kingdom (Robinson (1984) and Johnson (1985)) it seemed relevant to include the findings.

O'Connor (1982) found that participation in self study programmes was influenced most strongly by reasons related to improving professional knowledge and skills, seeking professional advancement and improving effectiveness in community work.
"In States where continuing education is required for re-licensure, the desire to comply with formal authority was one reason influencing nurses' self-study participation, but it was not as strong a motivator as the search for knowledge."

Clark (1986) (p 78)

Toebe et al (1982) sought to identify factors which encouraged or contributed to learner participation and completion of self-directed study courses in Alaska. They found evidence to support O'Conner (1982) i.e. that nurses engage in self-directed learning more for reasons of personal satisfaction and the need for knowledge, and less because of the need for re-licensure (C.E.U.'s) or employer requirements.

These are encouraging findings and it is hoped that a similar trend will emerge on this side of the Atlantic now that an increasing number of opportunities are available for nurses to take advantage of distance learning in order to continue their education.
CHAPTER 3: RESEARCH METHODOLOGY: APPROACH, METHODS, AND TECHNIQUES

3.1 INTRODUCTION

The aim of this chapter is to describe and discuss the research methodology which I adopted to carry out this study. After giving an overview of the various approaches which are available to the educational researcher I shall give a detailed account of the one which I followed. I will discuss the research methods and techniques which I employed to collect and analyse my data and address the problem of the researcher who is both producer and evaluator.

3.2 PARADIGMS IN EDUCATIONAL RESEARCH

There are currently two major schools of philosophy in research into teaching and learning. Gilbert and Pope (1984) divide the various labels which are used in the literature to describe the aims and strategies of these two approaches under the headings of Paradigm I and Paradigm II.

(1) Paradigm (Definitions)

"A collection of logically connected concepts and propositions that provides a theoretical perspective or orientation that frequently guides research approaches towards a topic."

Field and Morse (1985) (p.138)

"A paradigm is a perspective or frame of reference for viewing the social world, consisting of a set of concepts and assumptions."

Bailey (1982) (p.23)
According to Guba (1978) the researcher using the Paradigm I approach is a "logical positivist" who is concerned with "scientific facts and their relationship to one another". In contrast those who use the Paradigm II approach are "phenomenologists", "concerned with describing and understanding social phenomena".

Smith (1983) gives an overview of the historical origins and development of these two philosophical approaches. The current discussions about the methodology of both educational and social research are rooted in the late nineteenth century:

"The crucial question at that time was whether or not social scientists could and/or should "borrow" the methodology of the physical sciences, especially physics, to investigate the social and human world."

Smith (1983) (p.4)

The group of theorists (Comte, Mill and Durkheim) who did accept the traditional, scientific approach as a basis for studying the social world were labelled the "positivists". They worked within the overall empiricist tradition established by such people as Newton and Locke. Society, they claimed, "had gone through an inevitable evolution from the theological to the metaphysical to the present - positive. In the positive stage knowledge is based on science and the scientific methods".

Shortly after the "positivists" school was established a countermovement with a markedly different approach to human studies developed in Germany. Those involved (Dilthey, Ricket and Weber) found their philosophical origins in a Kantian tradition and were grouped under a label of "idealism". Dilthey argued that:-
"Whereas the physical sciences dealt with inanimate objects that could be seen existing outside us, this was not the case for the cultural studies. Here the subject concerned the product of human minds and was therefore inseparably connected to our minds with all the attendant subjectivity, emotions and values."

Smith (1983) (p.7)

Unlike the position of the positivists who took a subject-object position in their relationship to subject matter, the idealists adopted a subject-subject relationship. According to Smith (1983), Weber took the view that:-

"Since researchers were human beings engaged in studying the meaning of social action of human beings, they were both the subject and object of their own study. Social science was actually the pursuit of self-knowledge; in seeking clarity about why people selected and acted on certain values, we were ultimately seeking clarity about the meaning of our own conduct."

ibid (p.7)

Also unlike the "positivists", the idealist movement could not accept a series of overarching causal laws as the goal of social science research. Rather they believed the emphasis of investigation must be "an attempt to understand the individual or type".

They saw the cultural sciences as being descriptive as opposed to the positivists' view which was predictive or explanatory. The idealists concentrated on "interpretive understanding" which they described with the German term "verstehen".

Rist (1977) claims that "verstehen" (inner perspective or understanding)

"assumes that a complete and ultimately truthful analysis can only be achieved by actively participating in the life of the observed and gaining insights by means of introspection".

(p.44)

Smith (1983) states that it was "verstehen" which Weber considered made social science unique and separated it from
physical science.

"Verstehen was what allowed social science to deal with the essential human aspect of our subjects."

Smith (1983) (p. 8)

Until the late 1970's "The Scientific Method" (Positivist approach) was the dominant methodology in educational research. Rist (1977) states that -

"it is more widely published, taught, accepted and rewarded in educational circles than any other approach",

(p. 42)

However, around this time a lot of papers were published which raised objections to the use of Paradigm I (Positivist, traditional) approaches to educational research and advocated the adoption of Paradigm II. (Magoon, 1977; Elton and Laurillard, 1979; Entwistle and Hounsell, 1979).

Magoon (1977) felt there were good indications that the traditional (Fisherian) approach to educational research had reached a crisis stage and it was possible that this paradigm had never worked. Entwistle and Hounsell (1979) in their editorial in "Higher Education" state:-

"In a conscious rejection of the quantitative and more narrowly 'scientific' research tradition, an alternative paradigm has been growing in strength. This has been described as 'illuminative' by Parlett and Hamilton (1972) and has a close affinity with social anthropology (with its emphasis on interpreting actions within the whole social context) and with humanistic psychology (and its concern for understanding a person's own phenomenological world). This alternative paradigm differs, not just in methodology, but also in ideology from the more traditional approaches. It starts from a different set of assumptions about the nature of man - a recognition of man's unique capabilities of self conscious reflection and appraisal of his experiences. The researcher is required to take on a role akin to that of a sympathetic listener, seeking to understand through empathy and intuition the perspective or world view of the person or group of people in whom he is interested."

( pp 360-361)
Magoon (1977) states that the main strengths of ethnographic (Paradigm II) studies lie in their heavy emphasis on validity, particularly construct validation, "the meaning of events or situations to participants" (p.669). However, Entwistle and Hounsell (1979) warn that:-

"the very sensitivity and flexibility which are the essence of illuminative research are also its Achilles' heel".

(p.361)

They describe the insights which emerge from qualitative analysis being of necessity "to some extent subjective and impressionistic" (p.361). However they do stress that if the researcher is aware of these limitations and uses methods of cross checking (triangulation) of his interpretations he can provide evidence "as strong in its own way as that devised from conventional approaches".

Cohen and Manion (1980) define triangulation

"as the use of two or more methods of data collection in the study of some aspect of human behaviour".

(p.208)

Originally the term triangulation was used by such people as navigators and surveyors as a technique of physical measurement using several locational markers in order to pinpoint a particular spot or objective. In the social sciences triangular techniques

"attempt to map out or explain more fully, the richness and complexity of human behaviour by studying it from more than one standpoint and, in so doing, by making use of both quantitative and qualitative data".

Cohen and Manion (1980) (p.208)

According to Glaser and Strauss (1967) triangulation prevents the investigator from accepting too readily the validity of initial impressions. Goetz and Le Compte (1984) stress that triangulation techniques assist in "correcting biases" that occur when the investigator is the only observer
of the phenomenon under investigation. This last point has particular relevance to my own study and will be discussed in more detail later in the chapter.

The fact that ethnography is eclectic in its use of data collection and analysis procedures can give rise to some confusion when using the terms "qualitative" and "quantitative". A number of methodologists have argued that quantitative research methods are inherently linked to a logical-positivist paradigm and qualitative methods are inherently associated with a phenomenological paradigm (Rist, 1980; Smith, 1983; Watson, 1981). However Gilbert and Pope (1984) and Goodwin and Goodwin (1984) stress that these terms should be restricted to labelling the type of data and not the type of paradigm. Figure 3.1 shows the relationship between Paradigm I and Paradigm II approaches and the methods and techniques which are commonly used. It can be seen that "qualitative" and "quantitative" are only mentioned in relation to the type of data which is obtained.

Gilbert and Pope (1984) point out:

"it is perfectly feasible for an experimental study to give rise to 'qualitative' as well as 'quantitative' data and the 'descriptive' (Paradigm II) research worker could gather both types of data",

(p.21)

They also stress that although there is a clear distinction between the two paradigms at the level of research aims and philosophy this is not clear-cut at the level of the methods which are used. For example in Figure 3.1 although "experimental" comes under Paradigm I and 'case study' under Paradigm II it would be possible to find case studies where experimental procedures are used.

Some of these points will be illustrated in the next two sections of this chapter where I discuss the research method and techniques which I adopted for this study.
<table>
<thead>
<tr>
<th>LABELS USED FOR AIDS AND STRATEGIES OF TWO PARADIGMS</th>
<th>METHOD</th>
<th>TECHNIQUE</th>
<th>TYPE OF DATA</th>
</tr>
</thead>
<tbody>
<tr>
<td>NON TRADITIONAL ARTISTIC NATURALISTIC DESCRIPITIVE HOLISTIC PARADIGM 2</td>
<td>CASE STUDY</td>
<td>OBSERVATION</td>
<td>QUALITATIVE OR QUANTITATIVE</td>
</tr>
<tr>
<td>TRADITIONAL SCIENTIFIC EXPERIMENTAL PRESCRIPTIVE REDUCTIONIST PARADIGM 1</td>
<td>EXPERTIMENT</td>
<td>QUESTIONNAIRE</td>
<td>MAINLY QUANTITATIVE</td>
</tr>
</tbody>
</table>

**Fig. 3.1 Paradigms in Educational Research**

(Source: J. Gilbert and M. Pope (1984): Making use of research into teaching and learning, Module J, course study guide, DPHE, IED, University of Surrey (p. 20))
3.3 THE RESEARCH METHOD WHICH WAS USED FOR THIS STUDY

My own study is concerned with innovation in nurse education. It aims to produce, implement and evaluate the use of learning packages by student nurses while they are working in the wards. It is to be an intensive investigation of a small scale programme by a single researcher in the real life situation. It aims to describe and discuss the total circumstances surrounding this innovation by collecting and analysing information at each stage of the study. As such it is naturalistic, holistic and descriptive and therefore lies within Paradigm II (see Figure 3.1).

The research method which I decided to adopt for my investigation is the case study. The use of the case study in educational research has become increasingly popular over the past two decades (Simons, 1971; MacDonald and Walker, 1974; Nisbet and Watt, 1978; Stenhouse, 1982 and 1985).

Adelman et al. (1977) state that:

"Case study is an umbrella term for a family of research methods having in common the decision to focus an inquiry round an instance."

(p.139)

Pope and Gilbert (1984) suggest that the case study method is the mainstay of naturalistic enquiry. Essentially concerned with the interaction of factors and events which surround a specific instance, the evidence in case study is gathered in a systematic way using a variety of techniques. These techniques draw on those used in observational studies and aim to give a portrayal of a specific situation in such a way as to illuminate some general principles.

Nisbet and Watt (1978) state:-

"one of the main strengths in the case study method is its capacity to take into account the uncontrolled variables, those aspects of a situation - often important ones - which you have not clearly foreseen at the time when you begin to gather your data".

(p.10)
The work of Parlett and Hamilton (1972) on "illuminative evaluation" added considerable status to the use of case study as an accepted method in educational research.

The following statement by Parlett and Hamilton (1972) could well be applied to my own study:

"The aims of illuminative evaluation are to study the innovatory programme: how it operates; how it is influenced by the various school situations in which it is applied; what those directly concerned regard as its advantages and disadvantages; and how students intellectual tasks and academic experiences are most affected. It aims to discover and document what it is like to be participating in the scheme, whether as teacher or pupil; and in addition, to discern and discuss the innovations' most significant features, recurring concomitants and critical processes. In short, it seeks to address and to illuminate a complex array of questions: Research on innovation can be enlightening to the innovator and to the whole academic community by clarifying the process of education and by helping the innovator and other interested parties to identify those procedures, those elements in the educational effort, which seem to have had desirable results."

(p.10)

Illuminative evaluation is both adaptable and eclectic. It is a general research strategy rather than a standard methodological package. The flexibility called for in a custom-built design requires an extended range and choice of techniques to be used. They are chosen to fit the questions, opportunities and restrictions that a particular investigation poses: problems dictating methods rather than methods dictating problems (Laurillard, 1978; Dearden, 1979). The categories, themes, and subsequent hypotheses that emerge are "grounded" (have their initial foundation) in the data themselves. The process is used for hypothesis generation rather than hypothesis testing (Thomaz, 1986).

By using different research techniques in parallel the illuminative evaluator is able to adopt methods of cross checking (triangulation) as described in section two of this chapter.
Conducting interviews and observing in the field are used extensively in illuminative evaluation together with analysis of documents and the study of stored records (e.g., admissions data, test scores, costs, numbers of students pursuing different options). Short questionnaires, often open-ended in structure may also be used (Parlett, 1981). I used the majority of these techniques in my own study. They are described in detail in the next section of this chapter.

Relying heavily on field work, a practical difficulty which confronts the illuminative evaluator is the mass of information which is collected. In order to avoid overload the researcher has to make modifications as different themes emerge and at the various stages to focus progressively on critical questions to ensure that they receive maximum research attention (Parlett, 1981).

Parlett (1974) describes five stages through which this progressive focussing and interpreting should pass.

"(a) **Stage 1:** Setting up the evaluation. This involves a general strategy not to 'inspect' a pre-selected set of variables but rather to view the scheme as a working system: its processes and impact. The study will evolve using a different combination of techniques.

(b) **Stage 2:** Open-ended exploration in which the researcher would want to know how teachers, students and other interested people see the innovation from their respective points of view.

(c) **Stage 3:** Focused enquiries where certain issues and occurrences and groups of opinion which have emerged in Stage 2 become topics for more sustained and intensive enquiry.

(d) **Stage 4:** Interpretation: a stage where the investigation enters into a detailed, accurate and sensitive reporting and adds interpretive and explanatory comment.

(e) **Stage 5:** Reporting the study in which the illuminative evaluator is conscious throughout his investigation of his audience or readership. He will ensure that he addresses the issues that concern the reader."

(pp.16-17)
The next section of this chapter will describe and discuss the various stages of my own study and the research techniques which were used at each stage.

3.4 RESEARCH TECHNIQUES USED AT EACH STAGE (PHASE) OF THIS STUDY

This study is broken down into five very definite stages/phases which are illustrated in Table 3.4 (1). Although these phases vary considerably in length and two of them overlap (II and III), on the whole they run consecutively from the summer of 1981 to the spring of 1985.

Phase I (see Chapter 4.1-8) lasted for six months between the summer and winter of 1981. This was the planning stage when the clinical areas for the study were chosen and the needs of both the patients and the learners in these areas were analysed and learning objectives were produced.

Phase II (see Chapter 5) was the longest, lasting for almost two years from the winter of 1981 to the autumn of 1983. This phase was concerned with the design and production of the materials for the learning package. During this period between July and October of 1982 phase III took place. This consisted of the pilot study which was run to test the method for the main study (see Chapter 4.9).

Between September 1983 and December 1984 the fourth and main stage of the study took place (see Chapter 6.1-10). This stage involved the implementation, organisation and evaluation of the completed learning package for use by learner nurses in the chosen clinical areas. My own role during the first four phases was that of both researcher and teacher, a combination which will be addressed later in this chapter.

The fifth and final stage (phase) concerned my handing over the running of the project to the local staff (see Chapter 6.11).

Data for the study was collected during each of these five phases using a variety of techniques as illustrated in Table 3.4(2).
**Self-Directed Learning in Nurse Education**

*A Case Study on an Orthopaedic Ward*

**The Main Phases of the Project**

<table>
<thead>
<tr>
<th>PHASE I</th>
<th>Planning</th>
</tr>
</thead>
<tbody>
<tr>
<td>Summer to Winter</td>
<td></td>
</tr>
<tr>
<td>1981</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>PHASE II</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Winter 1981 to</td>
<td>Designing the Learning</td>
</tr>
<tr>
<td>Autumn 1983</td>
<td>Package</td>
</tr>
<tr>
<td></td>
<td>Producing the Materials</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>PHASE III</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>July to October</td>
<td>Testing the Method</td>
</tr>
<tr>
<td>1982</td>
<td>Pilot Study</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>PHASE IV</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Autumn 1983 to</td>
<td>Implementation,</td>
</tr>
<tr>
<td>Autumn 1984</td>
<td>Organisation and</td>
</tr>
<tr>
<td></td>
<td>Evaluation of the Main</td>
</tr>
<tr>
<td></td>
<td>Project</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>PHASE V</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Autumn 1984 to</td>
<td>Handing Over the Project</td>
</tr>
<tr>
<td>Spring 1985</td>
<td>to Local Staff</td>
</tr>
</tbody>
</table>

Table 3.4(1)
<table>
<thead>
<tr>
<th>Phases of the Study</th>
<th>Semi-Structured Interviews</th>
<th>Own Diary</th>
<th>Self Report Diaries</th>
<th>Participant Observation</th>
<th>Non-Participant Observation</th>
<th>Documents and Records</th>
<th>Questionnaires</th>
<th>Evaluation Sheets</th>
<th>Pre-Tests</th>
<th>Post-Tests</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phase I</td>
<td>15 Q</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>8 S</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>6 P</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>4 T</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Phase II</td>
<td></td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>S Q T</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Phase III</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>x</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Phase IV</td>
<td>50 S</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>x x     x x</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>50 50x3 50</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Phase V</td>
<td>11 Q</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>6 T</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

P = Patients
Q = Qualified Staff on Wards (Nurses, Doctors, Para-medical Staff)
S = Student and Pupil Nurses
T = Teachers (Nurse Tutors and Clinical Teachers)

Table 3.4(2) Research Techniques Used During Each Phase of the Study
It can be seen from Table 3.4(2) that some techniques were used during each phase of the project, for example my own diary, whereas others like the questionnaires were only used during one phase.

The technique which I used most extensively (in Phases I, IV and V) and the one which produced the largest amount of data was the semi-structured interview. Wragg (1978) felt that the semi-structured interview schedule tends to be the one most favoured by educational researchers as:

"it allows respondents to express themselves at some length, but offers enough shape to prevent aimless rambling".

(p.10)

Although I always used an interview schedule I varied the order and the phrasing of the questions quite considerably according to the respondent. Melia (1983) on discussing the use of informal interviews in nursing research stated:-

"The major appeal of this qualitative method is its flexibility. Rather than each informant being asked precisely the same questions, it allows the interviewer to pursue areas arising which have some conceptual promise."

(p.25)

In total I carried out 100 (One Hundred) interviews. Apart from one occasion I got the subjects' permission to tape-record the proceedings. After the first few exchanges the tape-recorder did not appear to inhibit the respondents to any extent. Once or twice I had a request for the recorder to be turned off for a short period when a particularly delicate issue was being discussed. This only happened with one or two of the more senior nursing staff. Stenhouse (1982) strongly recommended recording interviews:-

"I use a tape-recorder if I can: it protects the interviewee against misrepresentation, it captures the vividness of speech, it preserves a full record."

(p.267)
I found a battery operated tape-recorder was the most convenient as it could be used in any situation. The absence of a lead made its presence less conspicuous and made it easier to adapt to a variety of environments. The venue for the interviews varied considerably depending on the participants' circumstances. The majority were carried out in the instructors room which was adjacent to the ward areas although a few took place in offices, rest rooms, libraries, my flat and for patients within the ward itself. My general aim was to arrange a time for the interview when the respondents felt that they were free from the pressure of work for at least half to three-quarters of an hour. However some sessions, for example with other teachers, lasted over two hours. I aimed at making the seating arrangements as comfortable and as informal as possible within each situation and would always allow time for some general conversation before starting the interview.

It is possibly misleading that I have represented keeping my own diary, participant and non-participant observation as three different research techniques in Table 3.4(2). Although I consider I used all these techniques they were not recorded separately. That is, I did not use coded observation schedules either as a participant observer (during phases 1-4) or as a non-participant observer (during phase 5). I did however keep quite a detailed diary throughout the whole data collection period in which, amongst other things, I recorded what I observed. My strategy was very much like that described by Parlett and Hamilton (1972):-

"....the observation phase occupies a central place in illuminative evaluation. The investigator builds up a continuous record of on-going events, transactions and informal remarks. At the same time he seeks to organise this data at source, adding interpretative comments on both manifest and latent features of the situation."

(p.15)

Nisbet and Watt (1978) consider that when using the case study method keeping a diary is a rule which applies
whichever method is used to gather data. They comment:—

"...it may also help to clarify your thinking and keep alive those moments of insight which come only too rarely."

(p.18)

Now that I am writing up my thesis I fully endorse this statement. If I had omitted to keep a diary I would have lost a great deal of valuable data. In a project of this nature which lasts for several years, the memory even for quite important events, cannot be relied upon.

The self report diaries (see Appendix 4.7) which I asked the student and pupil nurses to keep in phases III and IV were different from my own. They were designed specifically for each subject to record their learning experiences during the time they were working on the orthopaedic wards. Each item to be reported was coded in order to ease recording. Using Allport's (1942) classification of diaries as a source of research data the learners' self report diaries would be termed a "log" whereas my own diary would be a "memoir".

I used several other documents and records as sources of data during my study. In phase I, I referred extensively to the training programmes for the three groups of learners involved in the study. Patients' records were used in phase II when writing the scripts for the tape/slide programmes which were produced as part of the learning package. In phase IV the students' work books were analysed in order to ascertain the quality and quantity of their work whilst using the learning package.

The only questionnaire I used was issued to the fifty learner nurses who took part in the main stage of the project (phase IV). The aim of this questionnaire was to gain background information on the educational experiences, attainments and opinions of each of the learners who took part in this phase. Reference was made to some of the responses to the questionnaire during the interviews.
In order to obtain richer data, both free and fixed response formats were included in both the questionnaire and the three sets of evaluation sheets which were used in phases II, III and IV. Each of the evaluation sheets was designed to assess a particular learning aid, for example a tape slide programme or programmed text. In phase II data from the evaluation sheets was used to decide which commercially produced aids should be purchased. Whereas in phases III and IV the evaluation was concerned with the learners' opinions and feelings about using the aids which had been bought or produced especially for the study.

The research technique which provided data which was purely quantitative was: the educational tests the learners were given before and after using the learning package (pre and post tests). Parlett and Hamilton (1972) warn that test results should not 'enjoy privileged status within the study', just because they are easy to analyse:

"Test scores cannot be considered in isolation; they form merely one section of the data profile. Interest lies not so much in relating different test scores, but in accounting for them using the study's findings as a whole."

(p.17)

This was a particularly helpful warning as I found that over the years when I discussed the progress of the project with colleagues and students it was the test scores that they would always enquire about first and to them appeared to be the most important outcome of the project.

3.5 ANALYSES THE DATA

As the development of each phase of this study was dependent on the analysis of the data collected in the previous phase data analysis ran in tandem with data collection and became a continuous process throughout the study. This pattern is one which Rist (1982) suggests is an important
consideration when handling qualitative data. Analysis, he stated, must occur concurrently with, as well as subsequent to, data collection.

I found that the ease with which the various data could be analysed and organised varied considerably depending on the research technique which had been used. The analysis of the semi-structured interviews demanded by far the greatest amount of time and effort.

As soon as possible after the interview I would re-play and compile notes describing the interview context. All the tapes were then transcribed verbatim. Watts (1980) states:-

"There is no escaping the fact that transcribing a tape is an extremely slow, time consuming activity."

(p.2)

During phase I, I did the transcription myself in order to become familiar with the process. However as there were a lot more interviews (66) in phases IV and V, I paid to have these typed. I checked all the transcripts for accuracy adding any necessary field notes in the margin. I made a copy of each transcript and was careful to mark each page with the informants number using colour codes for the different groups. Gradually as I worked with the interview data various categories or headings began to emerge and I was able to build up a numerical coding system similar to that described by Miles and Huberman (1984). As well as looking for what Guba (1978) describes as "recurring regularities" to form the themes for the categories, I also included items which were only mentioned by one or two informants. I found that quite often some of the most salient points were only made by one person. (See Appendix 22 for a list of the categories which emerged from the interviews with the students in phase IV.)

I assembled the items under each category by cutting the significant passages from the interview transcripts and pasting them together onto a full size piece of paper. Using this method it was possible to build up a filing system for easy retrieval of similarly coded data.
During phases I and IV, I also made a quantitative analysis of some of the interview data by recording the number of times similar items were mentioned on a table. (See chapter 4.4 and chapter 7A(2).)

The majority of data collected from the questionnaire, the evaluation sheets, the learners' self-report diaries and the pre- and post tests were also subjected to various types of quantitative analysis and are presented on tables, charts or graphs.

As both the qualitative and quantitative analysis progressed relationships began to emerge both within and between the various forms of data and by progressive focusing and cross checking (triangulation) I was able to draw at first tentative and later more definite (verified) conclusions.

Two models devised by Miles and Huberman (1984) give a clear representation of the method of data analysis I have been describing. They consider that analysis consists of three concurrent flows of activity:

1. **Data reduction** - the process of selecting, focusing, simplifying, abstracting, and transforming the raw data.

   (p.23)

2. **Data display** - an organised assembly of information (e.g., a wide range of matrices, graphs, networks and charts) that permits conclusion-drawing and action-taking.

3. **Conclusion-drawing and verification** - drawing meaning from displayed, reduced data - noting regularities, patterns, explanations, possible configurations, causal flows, propositions. These conclusions are also verified, tested for their plausibility, robustness, sturdiness, and validity.

   (p.24)

These components are illustrated in Figure 3.5(1) as a flow model.
Components of data analysis: Flow Model

Figure 3.5(1)  
Miles and Huberman (1984) (p.23)

Figure 3.5(2) represents these three streams as interwoven -
"...as before, during and after data collection in parallel form, to make up the general domain called analysis".

(p.24)
In the final section of this chapter I shall discuss the dual role I played throughout this study as both teacher and researcher (evaluator).
3.6 THE TEACHER AS PRODUCER/EVALUATOR (RESEARCHER)

"...effective curriculum development of the highest quality depends upon the capacity of teachers to take a research stance to their own teaching. By a research stance I mean a disposition to examine one's own practice critically and systematically".

Stenhouse (1978, p.156)

Before concluding this chapter it seems important to examine the role of the teacher who is both the producer and evaluator (researcher) of his own educational innovation. As I mentioned in the previous section this is the stance which I adopted for the majority of this study.

There is a great deal in the literature concerning the delicate role of the participant observer. Whilst stressing that the data gathered by this method is both rich and valuable (Jackson, 1975) problems such as "negotiating entry" (Wax, 1971), "role conflict" (Hargreaves, 1967), "going native" (Denzin, 1978), "observer bias" (Webb and Cavell, 1966) and "role disengagement" (Denzin, 1978) are all very well debated.

Whilst the teacher who is both producer of innovation and researcher is exposed to many of these problems and dilemmas the fact that they have actively created the situation which they are evaluating adds another facet to this already sensitive arena.

My own position was eased initially in as much as I was already known as a teacher by the participants in the study and I had the full support of the key figures concerned (the Director of Nurse Education, The Senior Nursing Officer,
The Nursing Officer and The Ward Sisters) so "negotiating entry" did not present a problem.

Stenhouse (1978) states:--

"...in order to be an observer/researcher, the teacher needs to teach that definition of himself to the pupils. In my experience this is quite possible provided he makes it clear that the reason he is playing the role of researcher is to improve his teaching and make things better for them".

(p.155)

In the same vein Hamilton (1973) advises participant observers that--

"...research relations are facilitated if the observer can find some way to "give" as well as "take"."

(p.203)

It was not too difficult for me to create these kinds of relationships. The staff who worked in the clinical areas where I carried out my study were very receptive to the introduction of learning packages and were very keen that something should be done to improve the quality of education for nurses on the wards. From the very beginning I was quite open about the aims of the various research techniques and did not meet any resistance to their use.

Parlett and Hamilton (1972) stress that in order

"to retain the viability and integrity of his research position and the trust of the participants in the programme, the investigator needs, from the outset, to clarify his role and to be open about the aims of his study".

(p.19)

Throughout the study I was very aware of the problems of "observer bias" particularly bearing in mind that I was a lone researcher. This was one of the reasons that I chose the
wide range of research techniques which are described in
the previous section of this chapter. I also took great
care to cross-check all the data.

Goetz and Le Compte (1984) stress that triangulation -
"....assists in correcting biases that occur
when the ethnographer is the only observer of
the phenomenon under investigation".

(p.11)

The big advantage of being both the producer and
evaluator of the situation which you are researching is that
one is able to react to the data as the study progresses
and where necessary change or adapt your innovation.

Both Bridge (1977) and Stenhouse(1978) argue that although
there may be some tension between the role of the teacher
and the researcher, in an ideal situation it is not only
possible but desirable that teachers should be the evaluators
of their own work:-

"....for in the end it is difficult to see how
teaching can be improved or how curricular
proposals can be evaluated without self-monitoring
on the part of the teachers".

Stenhouse (1975, p.165)

This feeling is endorsed by MacDonald and Walker (1974):-

"A specialist research profession will always
be a poor substitute for a self-monitoring
educational community."

(p.189)

It would appear then that the role of the teacher as
both producer and evaluator (researcher) of their own project
is well supported by the literature. Far from being a role
which is unusual or unworkable it is one which should be
encouraged and fostered.
3.7 SUMMARY

In this chapter the two major schools of philosophy in research into teaching and learning were described and discussed. An argument was made for the use of the case study as the research method of choice for this project. The research techniques which were adopted for the five phases of this study are discussed within the general framework of illuminative evaluation. Finally the data analysis was examined and the role of the teacher as both producer and evaluator (researcher) of his own work was addressed.

4.1 INTRODUCTION

This chapter describes the initial planning and setting up of the research project. It discusses my reasons for the choice of clinical areas which were used, together with the methods employed to devise the learning objectives.

An account is given of the strategies used to monitor a variety of ready made learning materials which seemed appropriate for attaining some of these learning objectives followed by a description of those which were eventually purchased.

The choice of media for learning are discussed in relation to the funds which were available and details are given of the negotiations which took place in relation to budgetting generally.

In the final section of this chapter I discuss the pilot study which was carried out between July and October 1982. I include the conclusions which were drawn from this pilot study and relate their relevance to the main part of the project which is discussed in Chapters five and six.

4.2 CHOICE OF CLINICAL AREAS

When this project was being set up in 1981, all three courses leading to a qualification in basic general nursing (see Chapter 2.2) were in operation in the Health District which was chosen for the study. The Nurse Education Centre
concerned was responsible for the 166 week course for student nurses leading to the qualification of Registered General Nurse (R.G.N.) and the 110 week course for pupil nurses leading to the qualification of Enrolled Nurse (E.N.(G)). The University involved ran a 4 year integrated course of graduate nursing studies leading to a BSc Honours in Nursing Studies with Registration as a General Nurse (R.G.N.).

The student and pupil nurses from all three courses gained the majority of their clinical nursing experience in the wards and departments of the same District General Hospital.

As described in Chapter 2.1 the primary aim of this project was to move towards a greater integration of theory and practice in nurse education by introducing a scheme of self-directed learning to the clinical areas.

As I was a lone researcher it was only possible to attempt such a project on a small scale and it was therefore very important to make a careful choice over the clinical areas which would be used. I was not limited in any way with this choice and the decision was entirely my own.

I knew the Hospital concerned very well having been a nurse tutor in the same Health District for three years. I also had experience of teaching on all three general nursing courses just mentioned as I was currently seconded to the University where as well as undertaking this project I helped with the teaching of the undergraduate BSc nursing students. My main area of responsibility was for the clinical supervision and teaching of all the University nursing students who were allocated to two orthopaedic wards. These wards had also been part of my clinical responsibility while I was a tutor in the Nurse Education Centre.

I realised that the need for a project such as this was equally as great in any areas to which student nurses were allocated. However it seemed to me very important that the teachers who were involved in the production of distance learning materials should have a good knowledge of the subject area involved and that also if possible they were established
or at least known in the area which was used for the production and introduction of the materials.

It was primarily with these two thoughts in mind that I eventually decided to set up the project in these two orthopaedic wards.

Although I did not hold a post-registration qualification in orthopaedics my knowledge of the subject was quite extensive due to my attachment to the wards over the previous four years. I had a good liaison with the Clinical Teacher in the area who held the O.N.C. (Orthopaedic Nursing Certificate) qualification and who had previously been a Ward Sister on one of these wards. I felt that she would be invaluable as a source of specialist information when producing the learning materials, as in fact she proved to be. The fact that orthopaedics is a specialist rather than what might be considered a general subject in nursing terms again lent itself to conversion to distance learning in as much as its content can be more confined.

As I was already an established teacher in the orthopaedic wards it meant that I did not have to break down the barriers of acceptance which I may otherwise have encountered as a researcher new to the area as indicated by the following:-

"We won't mind (my taking notes), we are used to having you around the place by now. Let us know what you are doing."

Staff Nurse

Several other factors were also important in making orthopaedics the wards of choice. These were the only two wards in the Hospital where the needs of the patients and therefore the educational needs of the students were identical. Both wards cater for patients following trauma to the locomotor system as well as elective orthopaedic surgery. They have the same Consultant Surgeons and alternate with admitting emergency admissions. This meant that the same learning materials could be used for both clinical areas. The fact that the two wards are adjacent to each other meant that the project would be physically easier to manage. Pupil nurses, student nurses
and undergraduate student nurses all gain experience on these wards and would therefore be able to be studied at the same time. The pupil nurses work on night duty so that nurses working on all three shifts could be studied. All these groups of learners were allocated to the orthopaedic wards about half to three-quarters of the way through their training (see Figure 4.1, 4.2 and 4.3) and would therefore be better able to judge and comment on an educational innovation than if they were exposed to it earlier on in the course. Also, being a specialist area, which students have not experienced earlier on in their training, there is a special need for integration of theory and practice particularly for the R.G.N. students who were only allocated to these wards for one month. Most ward allocations are for two months but in the student nurses training programme the orthopaedic experience comprises a quarter of Unit V which lasts four months, the three other allocations being the Accident and Emergency Department, the Intensive Care Unit and the Operating Theatres (see Figure 4.2).

Both the programmes supervised by the Nurse Education Centre concerned were based on the principle of modified modules. That is, each unit of clinical learning experience is preceded by a week in the Nurse Education Centre where student and pupil nurses receive a short and intense period of theoretical and practical instruction relating to the clinical areas to which they are about to be allocated. These periods of clinical allocation are for four months and generally comprise two different clinical areas apart from Unit V for students which has just been described. In some units weekly study days are given either in the School of Nursing or by visiting and observing events of special interests which are taking place in the clinical areas concerned. For example, on the orthopaedic wards students spend half a day observing the work of the physiotherapist and another half day in the fracture clinic. In the Accident and Emergency Department students spend a day out with an ambulance crew. At the end of each Unit students and pupils spend another week in the School of Nursing.
First Year.

1:4 12 20 26 34 42 47 54 weeks

UNIT II
MED/SURG MED/SURG MED/SURG MED/SURG PAED/GER
UNIT III

Second Year.

55 63 68 76 84 89 97 105 119 weeks

UNIT III (cont) UNIT IV
PAED/GER ITU/Anaesthetic ORTHOPAEDIC NIGHT DUTY
UNIT V
MED/SURC. MED/SURG. FREE
ALLOCATION

KEY

STUDY BLOCKS.
HOLIDAY.
CLINICAL EXPERIENCE.
12 weeks etc.

Figure 4.1 Pupil Nurse Training Programme.
Figure 4.3  B. Sc In Nursing Studies Course.

Distribution of Main Blocks Of 

Clinical Experience.
consolidating their knowledge and at certain stages being assessed on their progress.

The undergraduate student nurses receive the majority of their clinical experience in their third year when they are allocated full time to the clinical areas apart from one day a week in term time when they have a study day in the University. The experience these students gain on the orthopaedic wards is part of their surgical allocation and is usually four to six weeks long. The last week is often spent on night duty. Most of these students will have worked on these wards for a short time before in their first or second years when they will have visited one day a week for a term with a full week's experience either at the beginning or the end of term. (See Figure 4.3.)

In summary, the orthopaedic wards were chosen for the implementation of this project for the following reasons:-

1) I knew the wards well having been attached to them as a nurse tutor for four years. My knowledge base of the subject was therefore quite extensive.

2) I had good liaison with the clinical teacher for these wards who was a specialist in orthopaedic nursing and was prepared to help with the production of distance learning materials.

3) I was accepted in the area as a teacher and would not have to break down barriers that an outside researcher might face.

4) Orthopaedic nursing is a specialist subject and as such would lend itself to conversion to a distance learning approach.

5) Very few pupil or student nurses allocated to this area would have had previous experience of orthopaedic nursing and there would therefore be a special need to relate theory to practice.

6) Nurse learners from all three general nursing courses were allocated to these wards and work on both the day and night
shifts. This would give an opportunity to study how different groups working different shifts reacted to the introduction of the same distance learning materials.

7) All nurse learners allocated to wards were at least halfway through their training and would therefore be able to compare the use of distance learning materials with their previous experiences.

8) The two wards were the only two wards in the District which cater for the same type of patient problems. This meant that the same learning materials could be used on both wards.

9) The two wards were adjacent which would make organisation of the project easier.

4.3 NEGOTIATING A CONTRACT

In order to carry out this project I was seconded from a Nurse Education Centre in the National Health Service, where I was employed as a Nurse Tutor, to a Department of Nursing Studies in a University where I was a Research Officer. Before my secondment discussions had taken place between the Professor of Nursing Studies at the University and my Director of Nurse Education concerning the nature and outcome of this project. They were therefore both committed to the project and were happy for the student and pupil nurses for whom they were responsible to take part. However decisions concerning the exact nature and venue of the project were left up to me, as were local negotiations concerning the setting up and implementation of the work.

Having decided to use the orthopaedic wards I approached the Senior Nursing Officer in charge of the clinical areas to explain the project and the research methods which would be involved. She saw the work very much as an extension of my present role as a teacher and did not put up any objections.
I had a very similar reception from the nursing officer directly responsible for the orthopaedic wards. She was quite happy for me to go ahead with everything I suggested and said she would be pleased to help in any way. She agreed to be interviewed concerning learning objectives for the wards in the next few weeks.

I explained the project to each ward sister separately saying that I would be visiting the wards more than I had over the past few months. Both of them showed an interest and agreed to be interviewed. I suggested to them that I would talk to the rest of the staff individually as and when I needed to involve them. It is always very difficult to get a group of staff together in a busy ward and we all agreed that individual explanations would be the best.

When I was seconded to the University another Nurse Tutor was made responsible for the pupil and student nurses on the orthopaedic wards. We had been working together for the past three years so he was aware of what the project entailed and was happy to help in any way. During the time that these negotiations were taking place a new clinical teacher was allocated to the area as the one mentioned in 4.2 was taking maternity leave. I discussed the project with the new clinical teacher and she too was keen and interested in the work.

As I wanted to interview some patients I approached the Consultant Surgeons to get their permission. This was granted in each case providing the patient concerned was quite happy with the arrangements. It is particularly important to get a medical opinion before interviewing patients in case there are any emotional or psychological problems connected with their illness which could be exacerbated by such an event.

I was particularly anxious to involve the paramedical staff in the preparation of learning materials for student nurses as I wanted to emphasise the team approach to patient care. I therefore needed their opinions concerning the learning needs of the students. I asked the senior physiotherapist, occupational
therapist and social worker attached to the wards if they would like to take part and they all showed a great deal of enthusiasm and agreed to be interviewed.

Overall I did not encounter any difficulties negotiating a contract at any level within the structure. To a great extent I feel this was due to the fact that I was already known in the area and that I was able to present the project as something that would hopefully be of value to all concerned. Apart from the interviews I did not propose anything at this early stage that would be a threat in any way and all I was asking for were opinions concerning how and what students should learn while they are allocated to the orthopaedic wards.

4.4 DEFINING CLINICAL LEARNING OBJECTIVES

Work to define the learning objectives in clinical areas where student and pupil nurses receive their training was well under way nationally when this project was started following the General Nursing Council's educational policy document 77/19. This document stated that one of the characteristics of a satisfactory learning/training setting was that -

"learning objectives and opportunities are identified and written worksheets are available for student and pupil nurses."

However locally this task had only just started and no specific work had been done on the orthopaedic wards. I had a reasonably detailed idea of what the learning objectives should be as I had been very much involved with developing the overall three year training programme for the student nurses completed in 1980 (see appendix 1 for details of theoretical content of Unit V). I was also currently teaching the undergraduate nursing students on the wards two
or three days a week so was able to observe first hand all the learning opportunities which were available. In spite of this I still considered it necessary to get the views and opinions of as wide a range of staff connected to the orthopaedic wards as possible and I also planned to talk to some patients. I felt by doing this not only would it help me to formulate pertinent learning objectives but that in-depth discussions with those immediately involved with the patients and the students should help with the construction of the learning materials. It would also give me a clearer picture of the teaching and learning which currently took place.

Between April and August 1981 I carried out thirty-three open-ended interviews with the following groups of people:-

<table>
<thead>
<tr>
<th>Teachers:</th>
<th>One Nurse Tutor</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Three Clinical Teachers</td>
</tr>
<tr>
<td></td>
<td>(Two on day duty, one on night duty)</td>
</tr>
<tr>
<td>Nursing Officer:</td>
<td>One (day duty)</td>
</tr>
<tr>
<td>Ward Sisters:</td>
<td>Three (day duty)</td>
</tr>
<tr>
<td>Staff Nurses:</td>
<td>Five (day duty)</td>
</tr>
<tr>
<td>State Enrolled Nurses:</td>
<td>Two (day duty)</td>
</tr>
<tr>
<td>S.R.N. Students:</td>
<td>Five, second year on day duty</td>
</tr>
<tr>
<td>S.E.N. Pupils:</td>
<td>Two, second year on night duty</td>
</tr>
<tr>
<td>S.R.N. BSc Student:</td>
<td>One on day duty, third year</td>
</tr>
<tr>
<td>Physiotherapist:</td>
<td>One</td>
</tr>
<tr>
<td>Occupational Therapist:</td>
<td>One</td>
</tr>
<tr>
<td>Medical Social Worker:</td>
<td>One</td>
</tr>
</tbody>
</table>

This was a total sample of these grades of staff from the orthopaedic wards

This represents a 50% sample of staff nurses and a 25% sample of S.E.N.'s They were the total staff who were available on the days I was interviewing.

This was a total sample of the student and pupil nurses allocated to these wards while the interviews were taking place

This was a total sample of the regular staff in these disciplines who were attached to these wards
Doctors:— One Consultant
Orthopaedic Surgeon

Patients:— Four trauma patients
(3 male 1 female)

Two patients for elective surgery (both female)

Chosen in consultation with senior nursing staff as a representative sample of patients with special needs who would not be upset by an interview

Several days before each interview took place I explained to each participant the nature of the topics I wanted to discuss and gave them a list of questions which I may ask (see appendix 3). In each case I made specific arrangements concerning the time and venue for the interviews. However, owing to the emergencies which often occur when caring for patients, on several occasions these had to be postponed. I found the best time for talking to the night staff was between 23.00 hours and 02.00 hours when there was often a lull in the ward work. For the day staff mid-afternoon was the most popular time owing to the overlap of the early and late shifts.

The majority of interviews were carried out in the Instructors' Room, which is situated between the two orthopaedic wards, in order to cause as little inconvenience as possible to the staff I saw during their working hours. Occasionally we were interrupted during the interview by queries relating to ward work and in a few instances interviewees were actually called back to give assistance in the ward. Great care was taken to inform senior nursing staff when interviewing student and pupil nurses to ensure that they could be relieved from their duties. A few people agreed to see me in their off-duty time and came to my flat which is near to the hospital.

The time and venue for interviewing patients was very variable according to their individual circumstances. Those who were still in bed in hospital I talked to during the late morning or early afternoon when they were least likely to be receiving care and treatments or having visitors. Two patients I interviewed in their own homes after they were discharged.
Before starting any of the interviews I gave an explanation of how the information I obtained would be used and gave my assurance that what we discussed would be confidential. No-one refused to have our discussions taped and after the first few verbal exchanges the presence of the tape recorder did not appear to inhibit people's comments. I knew the first person I interviewed very well and was therefore able to ask them for any criticisms they had of my actual interview technique. They advised me to have more talk in time after the tape recorder had been turned on to get people used to the machine. I was also warned about the use of leading questions.

Seating arrangements for my interviews varied according to the venue but in all cases I tried to adopt as informal a position as the furniture would allow. I found that a small, portable, battery operated tape recorder was much easier to adapt to a variety of venues as there was not the added problem of sitting near to an electric socket. Also the absence of a flex made the machine less obvious.

For some interviews I wore the uniform I had for clinical work while for others I wore a white coat or no uniform at all. My attire depended on the time and venue of the interview and on what I had been doing immediately previously. I never dressed especially for the occasion. In all cases I was wearing an outfit which the interviewee was accustomed to seeing me in in my role as a teacher or colleague.

The timing of the interviews ranged from thirty minutes to one-and-a-half hours. These time differences were mainly due to the amount that people were prepared or able to say but once or twice were governed by the amount of time they could be away from their work. However I was always able to cover the majority of issues I wished to discuss.

Although my main reason for carrying out these interviews was to help to formulate learning objectives for the orthopaedic wards I also wanted to increase my knowledge in two other areas.
Firstly I wanted to get a clearer picture of the current situation regarding the teaching and learning of student and pupil nurses during this allocation. Although I was teaching in these wards myself I felt there was still a lot I either did not know or that I needed to have confirmed.

Secondly I was interested to learn people's ideas and opinions concerning ways in which we could improve the current teaching/learning situation including their feelings about the introduction of a scheme of individualised learning materials.

The questions which I asked were therefore centred around three main themes:-

1) What are the special needs of patients on orthopaedic wards? Arising from these needs, what knowledge, skills and attitudes do learner nurses need to acquire in order to give good care to their patients?

2) What methods are used at present to teach student and pupil nurses allocated to the orthopaedic wards? What are the official and unofficial sources of their learning?

3) How can the present teaching/learning situation be improved? What opinions do people have concerning the introduction of a scheme of individualised learning materials?

As these interviews were open-ended the dialogue which ensued was very rich and only very loosely structured. This of course presented a considerable problem with analysis.

I spent the most time analysing question one as it was central to the next stage of the project. I will now discuss this analysis in some detail and explain how I arrived at the learning objectives for the orthopaedic wards.

Knowing that I wanted to present these objectives under knowledge, skills and attitudes this at once gave me a framework in which to operate. Under each heading I looked for topics which were frequently mentioned by the various groups of people whom I interviewed and entered them on a table. For example
Table 4.4 is the quantitative analysis for the knowledge component of the learning objectives. The numbers indicate the frequency that each topic was mentioned by the various groups. I used A3 paper for my original table and was therefore able to enter quotes and reference numbers from the transcripts and give each individual a column. Not only did the quotes prove helpful for formulating the objectives but they were invaluable when writing the content of the learning materials.

In order to illustrate this I propose to enlarge on some of the topics which were mentioned most frequently in my interviews under:

a) Knowledge
b) Manipulative Skills
c) Attitudes and Interpersonal Skills

4.4 a Knowledge (see Table 4.4)

The following is a list of topics which were considered by those whom I interviewed to be necessary background knowledge for pupil and student nurses working on the orthopaedic wards:

i) Mentioned Frequently

The anatomy and physiology of the locomotor system
General information relating to the wards and orthopaedic nursing
The role of the paramedical staff in the care of these patients
Physiotherapist
Occupational Therapist
Medical Social Worker

Orthopaedic conditions and treatments
Osteoarthritis
Rheumatoid arthritis

The types and treatment of fractures
The theory of traction
Head injuries. Types, treatment and care
Nutritional needs of orthopaedic patients
<table>
<thead>
<tr>
<th>SUBJECTS INTERVIEWED</th>
<th>Bones</th>
<th>Joints</th>
<th>Muscles</th>
<th>Ward Information</th>
<th>Type of Fractures &amp; Treatment</th>
<th>Psychological Aspects</th>
<th>Theory of Traction</th>
<th>Details of Surgery/Conditions</th>
<th>Social Problems</th>
<th>Nature of Nutrition</th>
<th>Special Mentioned Once Only</th>
<th>Role of Para-medicals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ward Sisters x 3</td>
<td>3</td>
<td>2</td>
<td>3</td>
<td>1</td>
<td>3</td>
<td>2</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Staff Nurses x 3</td>
<td>3</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Students x 5</td>
<td>5</td>
<td>2</td>
<td>5</td>
<td>4</td>
<td>2</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pupils x 2</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nurse Teachers x 4</td>
<td>4</td>
<td>3</td>
<td>3</td>
<td>4</td>
<td>2</td>
<td>3</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Consultant Orthopaedic Surgeon x 1</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Physiotherapist x 1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Occupational Therapist x 1</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Social Worker x 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nursing Officer x 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Possible Total (22)</td>
<td>18</td>
<td>10</td>
<td>15</td>
<td>15</td>
<td>11</td>
<td>8</td>
<td>13</td>
<td>16</td>
<td>6</td>
<td>14</td>
<td>12</td>
<td>6</td>
</tr>
</tbody>
</table>

Table 4.4 Analysis of Knowledge Component Mentioned in Interviews

- Mentioned by at least 50% of people.

Numbers indicate times these topics were mentioned by various groups.
ii) **Only rarely mentioned:**

Prolapsed intervertebral discs - treatment and nursing care  
Spinal Injuries - treatment and nursing care  
Torn Meniscii in the knee joint - treatment and nursing care  
Carpel Tunnel Syndrome - treatment and nursing care  
Dupuytren's Contracture - treatment and nursing care  
Fractured Hands  
Facial Injuries  
Fractured Jaws  
Osteomyelitis  
Skin Grafting  
Information on Post-Registration Courses in Orthopaedics

As it was mentioned most frequently I will use the first topic on this list, the anatomy and physiology of the locomotor system to illustrate the type of information people included when they were interviewed.

All student and pupil nurses have an introduction to all the systems of the body, including the locomotor system, during the first four to six weeks of their training. Most of them will have a revision session on the locomotor system in the weeks block at the beginning of the trauma unit, but of course in some cases this will be 3 months before they start on the orthopaedic wards. Some students will have Human Biology at "O" and "A" level and the undergraduates will have covered the locomotor system at the University in their first year. Both student and pupil nurses will have had anatomy and physiology applied to their study of nursing care as they have progressed through their training. So all learners should have some knowledge of the locomotor system before coming to the ward.

However, for the teacher, the great difficulty when helping student and pupil nurses to learn anatomy and physiology is to know at what depth the subject should be taught to be adequate for them to understand the rationale for their nursing care. The following extracts from some of my interviews illustrate what several of the more senior staff felt about the type and depth of knowledge the students needed for anatomy and physiology.
Ward Sister II

"I think they need to understand anatomy for a start. It is very important as they cannot apply anything to patients they are trying to nurse without knowing the basic fundamentals. I do think that is important and I have found that while I've been nursing and trying to teach the students on the wards sometimes their knowledge of anatomy is rather lacking and this is a major stumbling block for them."

Q "What would you say particularly. The names of bones?"

Ward Sister "If you are lucky they know the names of bones but they just seem very vague about it altogether, to be quite honest."

Q "How much do you think they need to know in addition to the names of the bone and the main points of the bone?"

Sister "The names of the bone, the type - long, short, does this bone help to form any joint, what type of joint is it and the name of that joint."

Q "Classifying bones and joints?"

Sister "And then we can work from there. But at present I sometimes get a frozen look of amazement when I ask questions about bones and joints, at the moment."

Q "What about muscles?"

Sister "No, that's not too important. They only need to know a few of the major muscles. The muscles for the main action of walking. I don't think too much stress should be placed on that because it is very difficult to learn muscles and I think that if they are swamped with too much knowledge which may appear irrelevant to them before they come on the ward then that can be off-putting rather than stimulating them to learn more."

Ward Sister II, Day Duty. Has the O.N.C. qualification

A Sister on the Orthopaedic Wards for past 18 months

Clinical Teacher I

Q "How much background knowledge do students need before coming to the ward which they can enlarge on while they are here?"

CT I "Beforehand I think they certainly need to know classification of fractures, they need to know about the basic structure of their skeleton, they need to know about their main muscles, in fact their main
anatomy and physiology, but I don't think it needs to be very complicated at this stage. In fact if you can keep it reasonably simple and straightforward then they will get a lot more out of it. They need to know about different joint positions and how to describe them.

Q "Terminology, really."

CT "Terminology, um and so that's fractures, terminology, anatomy and physiology."

Q "You did mention muscles which actually I'm aware we don't do a lot about. But you feel we should think more about that?"

CT "I think it would be a good idea, although in the work that we are doing on the ward now they do have some time with the physiotherapist, where obviously she emphasises the muscles, but certainly I think they should be aware more of muscles, perhaps before they have their time with the physio, because exercises are just so important to trauma generally."

Clinical Teacher I, Day Duty. Has O.N.C. qualification. Was Ward Sister on these wards for 3 years and Clinical Teacher for past 2 years.

The physiotherapist herself took up this point about muscles and in spite of her own very detailed knowledge in this area agreed that nurses did not need to learn about muscles individually. She also made some useful points relating to practical application of this knowledge.

Physiotherapist

Physio "I think they don't need to know the muscles individually but as groups. I think they ought to perhaps understand them."

Q "More, the movements they produce, rather than the names?"

Physio "Yes, mn."

Q "And would you pick out.....?"

Physio "Anything special, well the Achilles tendon, I think it is important they understand how that works and why it is important to maintain the length of the Achilles tendon, because that really involves nurses as well as physios, you know just to prevent dropped feet."

Q "Yes, yes."
Physio: "And also they ought to understand the function of the quadriceps, because a lot of patients come back from the theatre, as I think I said to you, with pillows under their knees and then we have great difficulty straightening the knees out, um and if the nurses understand that this is a bad thing to keep operated knees on pillows...

Q: "Yes, you wanted to have this link with the recovery room?"

Physio: "Yes, I have talked to recovery about it, yes and they think that it is the junior doctors doing it in theatre, so it is obviously a new doctor who started recently who doesn't quite understand himself."

Q: "So, how about the hips themselves, the muscles and so on?"

Physio: "I think they ought to understand the relationship of the adductors with the abductors of the hip so that they understand the business about being wary of dislocation of total hips."

Senior Physiotherapist for the Orthopaedic Wards

The reference to lack of detailed knowledge by the junior doctors is interesting and highlights another whole area where in-service education is needed and where distance learning may be useful as these junior doctors change their clinical attachments every six months.

The Occupational Therapist gave a useful example to illustrate how nurses failed to relate basic principles of anatomy when applying splints:-

Occupational Therapist

OT: "I have found nurses (students) do not know how to handle splints at all."

Q: "Yes, this would be even the most simple splints."

OT: "Yes, I don't think they know the functional position for limbs when they are in splints and the tightness of the splint on the patient and how it should be worn, how often. We do put a note in the Kardo but I don't think it is read, very often at all. And they don't know what to do with the splint when it is finished with."
Q "So this is a real gap as far as you're concerned in their knowledge."

OT "I would say so yes."

Q "So you would say starting with the general positioning of limbs."

OT "Yes, yes, I think often splints like, foot drop splints we use to prevent plantar flexion in the foot and the nurses would put the splint on but leave the foot plantar flexed, rather than getting it up to 90° first and then putting the splint on which defeats the object of the whole thing really because the foot will just come out of the splint."

Q "So you would come when they had put the splint on and find the position quite wrong?"

OT "Yes, yes."

Q "And this would be common, really, would it?"

OT "Yes, I would say it was common."

Occupational Therapist working full-time on the Orthopaedic Wards

This was one of the points which I picked up particularly when producing the tape/slide programmes for the learning packages. I made a whole series of slides on correct positioning for hand and foot splints.

Another of the Clinical Teachers went into a lot of detail about the anatomy and physiology and suggested several methods which would help the students to learn. She also made several helpful points linking theory and practice:-

Clinical Teacher II

CT "Well I think basically they need to have more emphasis put on the actual structural anatomy, you know bones, joints, they seem to have very little knowledge of this. The impression I get is that they get a certain amount of bones, joints in their introductory course and mainly are left to do it themselves, which is fair enough but they can't learn it out of books and they need more bones to hold and handle, I think this is a big problem."
As a result of this comment each student was issued with a femur, half a pelvis and a selection of vertebrae with each learning package when the main project started.

Interview continued:

Q  "How much detail then do you think they need to know about a bone?"

CT  "I think they should know the formation and structure of the bone and then they should be able to draw the major bones, even if it is only a rough outline, O.K. maybe not putting in all the little details - knobs and grooves and such."

Q  "How much detail do you think they should be able to put in?"

CT  "Um, well I suppose that really varies between whether they are pupils or students or whether they are degree students."

Q  "Well how much do you think they need to know to understand the nursing?"

CT  "Well from the nursing point of view I don't suppose they need it in that much depth um apart from the muscle attachment and nerves, you know they would apply it from where they are likely to have fractures, weak points in bones."

later

"I would say the arms and legs, the pelvis, the vertebrae, they should be able to differentiate between the different types of vertebrae, you know the major differences between them."

Q  "And how much detail do you think they should know about the vertebrae themselves?"

CT  "Um, well I would expect them to be able to draw an outline of a typical vertebra."

Q  "So that's pretty well everything apart from the ribs and the skull?"

CT  "Well the skull again, I mean the vault of the skull is fairly simple, and most of them can name the different parts of it and it comes into more detail when you come to the facial bones. Mr. A. (Maxillo-Facial Surgeon) does expect them to know it in detail."
Q  "What do you feel about that, for this ward?"

CT  "For this ward, well there again you see you do have your facial injuries, because you get multiple injuries and a lot of them do have facial injuries. And also one point Mr. A. brought out was that you have patients put on an orthopaedic ward because they have fractured limbs and what have you, and their facial injuries are neglected."

Clinical Teacher II, Day Duty. Had recently come to work on these wards.

Student and Pupil Nurses themselves were also aware of their own need to have a better understanding of the anatomy and physiology of the locomotor system and were often quite specific about the areas they needed to cover. I am interviewing two students together here:--

Student Nurse I and II

Q  "Do you think that the anatomy that was given, say in the Introductory Block and then the revision at the beginning of this unit, was enough on the locomotor system?"

Both together  "No, no."

Q  "What else do you think you need?"

SII  "We had nothing at all, I think it was just the teacher said look through the locomotor system, make sure you know the ulna, radius things like that, and I don't think we even mentioned nerves."

Q  "How much would you think the general students would need to have?"

SI  "Well, let's see, well things like the femur, I think that is something you really do need to know, because it is so common and there are so many different fractures and the treatments are all directly applicable to where you fracture. So I think that is a paramount one."

Q  "So, they need to know the main areas?"

SII  "Yes, and um, and the tibia and fibula. The difference between a tibia being fractured and a fibula which is really you know a minor thing, and I think the blood supply to the bones, especially the difference between why doctors decide between an Austin Moore and a pin and plate, is all to do with the blood supply and the
position of the fracture, and the periostium
if that's torn, how that affects the bone."

Two Second Year Students during the fourth week of their
allocation. Both these students had done their O.N.C. at
17 years old before their general training.

I used the point about the blood supply to the bone and
included it in the introduction to a tape/slide programme on
lifting and moving patients following fractures to the neck of
the femur. It is possible that I may have done this even if
I had not carried out any interviews but overall I am convinced
that I would not have included several very important issues if
I had produced the programmes without any consultation.

The pupil nurses on night duty also felt they needed more
information on these topics:-

Pupil Nurse
Q "Do you think you need to know more?" (about bones)
Pupil "Yes, yes, definitely."
Q "How about the actual structure of the bones?"
Pupil "Yes, yes I think it would be very helpful."
Q "For instance, I won't ask you now, but if you had
to, could you write down how a fracture healed?"
Pupil "After a fashion."
Q "Would you be able to relate that to how you should
feed a patient with a fracture, thinking of new bone
growth?"
Pupil "Mm, yes (doubtfully). Only through general knowledge
though. We haven't actually been told about it,
coming onto this ward or anything like that."

Second Year Pupil Nurse on night duty during the sixth week
of her allocation.
This group of pupil nurses had in fact had some information on the healing of fractures but this was three months before the interview. Also it was 01.20 hrs when I made this recording. However, it seems significant that when I talked to the Nurse Tutor responsible for the theoretical input relating to bone healing and structure he made the following comments:

Nurse Tutor

"Certainly I find that they find the concept of bone healing very difficult to grasp, and possibly some re-inforcement in some way would be a good idea, I found with the last batch of finalists that although they had been taught and taught again they still found difficulty in the last few months of their training and I had to go through it again."

I received equally specific comments to those just mentioned on all the topics which fell into the knowledge component of the learning objectives. Most people stressed that because pupils and particularly students spent such a short time on each allocation, information should be kept basic and not too detailed. It was generally agreed that any individual student who was willing or able had the facilities to study topics in greater detail if they so desired. I was able to add all this information which I gained from the interviews to my own knowledge of the situation and formulate the learning objectives in the cognitive domain as shown in Table 4.5.
Table 4.5 Objective for student and pupil nurses on completion of their clinical experience on the orthopaedic wards

A COGNITIVE DOMAIN

1) General information concerning the ward

On completion of your clinical experience you should be able to:

a) List the types of problems/conditions from which patients have suffered while you worked on the ward.

b) Describe the particular needs of the patients you cared for on the orthopaedic ward i.e. physical, psychological, emotional and social.

c) Describe the role of all members of the caring team on the orthopaedic wards i.e. nurses, doctors, occupational therapists, physiotherapists and social workers.

2) The Locomotor System

a) Name and classify all the bones in the skeleton.

b) Describe the structure, growth and healing of bone. Relate the processes to nutritional factors.

c) Draw the femur, tibia and fibula and label the main points. Indicate the blood supply.

d) Identify the different types of joints in the body.

e) Describe a synovial joint.

f) Draw and label a diagram of the hip joint.

g) Describe the structure and formation of skeletal muscle.

h) Demonstrate abduction and adduction of the hip joint, flexion and extension of the hip and knee joints, plantar and dorsiflexion and inversion and eversion of the foot. Give reasons why patients should be encouraged to do these exercises.

i) Indicate the positions and give the names of 3 of the main muscles in:

a) the arm
b) the leg

j) Teach a patient to exercise the quadriceps muscles.

k) Draw and label diagrams to illustrate the positions of the following nerves:

the ulna, median and radial nerves in the arm, the sciatic, tibial and common peroneal nerves in the legs.

3) Management of Patients with common orthopaedic conditions

a) Define the following terms:

<table>
<thead>
<tr>
<th>Term</th>
<th>Term</th>
<th>Term</th>
<th>Term</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ankylosis</td>
<td>Arthrodesis</td>
<td>Arthroplasty</td>
<td>Diaphysis</td>
</tr>
<tr>
<td>Dislocation</td>
<td>Epiphysis</td>
<td>Ganglion</td>
<td>Kyphosis</td>
</tr>
<tr>
<td>Lordosis</td>
<td>Osteophytes</td>
<td>Osteoporosis</td>
<td>Osteotomy</td>
</tr>
<tr>
<td>Scoliosis</td>
<td>Spondylitis</td>
<td>Subluxation</td>
<td>Tenosynovitis</td>
</tr>
<tr>
<td>Valgus</td>
<td>Varus</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Table 4.5 (continued)

b) Describe the changes which take place in the body due to the following conditions:-

Osteoarthrosis
Rheumatoid arthritis
Prolapsed Intervertebral Disc
Torn Meniscii in the knee joint
Osteomyelitis
Carpel Tunnel Syndrome, Dupuytren's Contracture

c) Identify the common patient problems which arise from each of the conditions mentioned in 3b.

d) Describe one of the treatments which may be used for each of the conditions mentioned in 3b.

e) Devise a Nursing Care Plan for any patient you have nursed with one of the conditions mentioned in 3b.

4) Management of Patients following trauma particularly to the locomotor system

a) Describe
   i) the local
   ii) the general effects of a fractured bone

b) List the complications which may occur following a fracture:-
   i) local
   ii) general

c) Draw
   (1) a femur
   (2) a tibia and fibula and indicate the common sites where these bones fracture

d) Summarise the various methods which may be used to treat a patient with a fracture.


f) Describe the specific nursing care for patients following the application of a Plaster of Paris.

g) Describe the different types of traction i.e.
   i) Fixed
   ii) Sliding
   iii) Skin traction
   iv) Skeletal traction

   List the observations which the nurse should make of a patient on traction. Discuss the complications which may occur.

h) Assess the patient problems and plan the nursing care for any patient you have nursed on sliding skeletal traction.

i) List the effects and possible complications which may occur following a head injury.

j) Discuss the observations which the nurse should make on a patient following a head injury and identify the signs which would indicate that complications had occurred.

k) Describe the particular needs and nursing care of any patient you have nursed on the orthopaedic wards with soft tissue damage i.e. burns, abrasions, lacerations.
4.4 b **Manipulative Skills (see Table 4.6)**

The following manipulative nursing skills were mentioned during interview as being specific to the care of patients on orthopaedic wards:

i) **Mentioned Frequently:**

- Lifting and Moving Patients
- Positioning Patients
- Following joint replacements and surgery
- With fractured or damaged limbs
- Following back injuries or surgery
- Application of skin traction
- Caring for patients in plaster of Paris
- Bandaging to include:- application of slings
  - figure of eight to the leg
  - Tubigrip to ankle and knee
  - Collar and Cuff slings
  - Hip spica
- Care of wounds following orthopaedic surgery/trauma
  - Care of drains
  - Removal of sutures
- Care of patients on long term bed rest
- Mobilisation of orthopaedic patients:- weight bearing
  - non-weight bearing

ii) **Only rarely mentioned**

- Use of Styker Beds
- Teaching patients straight leg raising
- Application of Roller Towel Slings
- Neurological observations
- Transferring patients on traction from one bed to another
- Application of splints
- Washing hair in bed
- Use of dressing and feeding aids

Problems associated with lifting, moving and positioning orthopaedic patients were by far the most common manipulative skills which were mentioned. Many people were very specific about the nursing skills which were needed and described them in detail. They also highlighted several instances where knowledge of the correct techniques by students was poor and that they did not receive enough supervision or teaching. A few even indicated areas of potentially dangerous practice.
### Table 4.6 Analysis of Manipulative Skills Mentioned in Interviews

<table>
<thead>
<tr>
<th>Subjects Interviewed</th>
<th>Lifting</th>
<th>Moving</th>
<th>Positioning</th>
<th>Handling</th>
<th>Traction</th>
<th>Patients in Plaster</th>
<th>Pressure Aces Care</th>
<th>Bandaging</th>
<th>Wound Care</th>
<th>Prevention of D.V.T.'s</th>
<th>Mobility &amp; Non Weight Bearing</th>
<th>Special Skills Mentioned By Others</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ward Sisters x 3</td>
<td>3</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Staff Nurses x 3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td></td>
<td></td>
<td>3</td>
<td>3</td>
<td></td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Students x 5</td>
<td>5</td>
<td>3</td>
<td>2</td>
<td>5</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Pupils x 2</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Nurse Teachers x 4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Consultant Orthopaedic Surgeon x 1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Physiotherapist x 1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Occupational Therapist x 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Social Worker x 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Nursing Officer x 1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td></td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Possible Total (22)</td>
<td>20</td>
<td>16</td>
<td>12</td>
<td>15</td>
<td>11</td>
<td>12</td>
<td>6</td>
<td>6</td>
<td>2</td>
<td>4</td>
<td>10</td>
<td></td>
</tr>
</tbody>
</table>

Mentioned by at least 50% of people
I propose to specify some of the comments which were made in order to:-

a) show why I chose this problem as being one of the most urgent educational needs which new student and pupil nurses had, and

b) to illustrate how detailed people were in describing the correct procedures and how this was helpful in the production of individualised learning materials.

Correct lifting, moving and positioning of orthopaedic patients poses two distinct problems. Firstly there is the problem of the correct handling of the patient following surgery or trauma to the locomotor system in order to promote healing and prevent further damage. Secondly there is the problem of preventing injury, particularly back injury to the nurses handling heavy, often comparatively helpless patients who need to be moved frequently.

This second point was emphasised several times during the interviews by the following:-

Consultant Orthopaedic Surgeon

Consultant "That (lifting and moving) of course is very important as regards occupational health and the nurses' own backs. Otherwise they all land up having laminectomies in their thirties."

Nursing Officer

NO "One thing that really is a problem, I wonder if they are really taught the different types of lifts properly, because we do get an awful lot of back injuries."

Ward Sister I on Day Duty

WSI "...there are too many girls going off sick with bad backs and coming in with aches and pains and I think they need to know just how heavy it is before they start, and how terribly tiring it is."

Clinical Teacher I, Day Duty

CTI "But yes, I think we need to reinforce how they lift, because this is always a problem, nurses hurting their backs."
Recent research on Patient Handling and Truncal Stresses in Nursing carried out at the University of Surrey (Stubbs et al. 1980) indicates that orthopaedics is one of the high risk specialities leading to back pain in nurses.

Table 4.7 shows that together with General Medicine, Geriatrics and District Nursing nurses working on an orthopaedic ward are at a significantly greater risk than those in the general population. It is estimated that generally one nurse in six will injure her back through patient handling each year whereas in the high risk specialities which includes orthopaedics this is as high as one in four.

Table 4.7  Nurses experiencing patient handling incidents leading to back pain per 1,000 whole time equivalents per year

<table>
<thead>
<tr>
<th>High Risk Specialities</th>
<th>General Medicine</th>
<th>365</th>
</tr>
</thead>
<tbody>
<tr>
<td>Geriatrics</td>
<td>339</td>
<td></td>
</tr>
<tr>
<td>Orthopaedics</td>
<td>339</td>
<td></td>
</tr>
<tr>
<td>District Nursing</td>
<td>269</td>
<td></td>
</tr>
</tbody>
</table>

Overall rate for the population 190

(Stubbs et al. 1980)

The fact that lifting and moving patients in orthopaedic wards was a particular occupational hazard for nurses was certainly one of the factors which persuaded me that this was one of the areas which I should concentrate on when producing the learning packages. Another reason was the number of people who emphasised that students were actually afraid to move these patients in case they hurt them or did any permanent damage. This was sometimes given as a reason why they did not carry out other extremely important aspects of care correctly, for example pressure area care:

Staff Nurse III. Day Duty
SN "I think a lot of the students are scared of old patients having major operations, they don't want to touch them in case they hurt them or dislocate their hip. They are afraid to lift them so quite often
their pressure areas do get missed. They do hold back on lifting, it's the most important thing on the ward and they must learn to do it properly."

**Staff Nurse I. Day Duty**

"Students are frightened to roll a pin and plate, and pressure area care is not always done as well as it could be. Students are frightened to ask, they don't want to show their ignorance on the first day."

**Clinical Teacher I. Day Duty**

Q  "Do the students find positioning and moving the patients a problem?"

CT  "They worry a great deal about that, they worry that they are hurting the patients and that they are um doing them a lot of damage by putting them in incorrect positions."

Two of the trained staff, who were interviewed together, suggested that because the students were afraid and inexperienced they actually got less opportunities to practise their lifting skills and did not receive enough explanation particularly if the ward was busy.

**Staff Nurse IV. (Interviewing Staff Nurse and S.E.N. together)**

SN  "I think students are a little bit frightened of actually hurting the patients, with broken bones for example. I don't think they are really confident until their last week on here. If we are very busy we go and lift together, which is wrong probably. We are about the same height and the student probably watches. I think we should give the students more explanation."

SENI "Also I think with the heavy patients you are so scared of doing something to your own back you go to the person you know you can lift with. Often I find the students have forgotten the principles of lifting."

Two of the patients were also aware that students and auxiliaries were not sure how they should be handled and said that they themselves had been worried and had to tell the student what to do:--
Patient I

Q "Have you always had every confidence in the nurses and felt that they understand what they are doing for you and why they are doing it, let's say the students?"

Patient I "I think there are perhaps one or two who have been a bit hesitant, I'm not worried about it now, but right at the beginning, there were one or two of them who weren't quite sure, I mean when it was a question of a bed pan and then you were told 'up' and I would say 'Oh, I can't get that leg up at all you see' and they'd give me a funny look and there were only about two of them that were obviously not quite sure if they lifted me, I lifted myself or what happened."

Q "So it was relating to the moving then, you felt they weren't quite sure if you should be lifted up or rolled or if you could lie down or whatever?"

Patient "That's right. Well you see on one occasion one of them started to roll me and I said 'no I don't roll, I've got to lift up', but she didn't know, but she was very young, very young."

73 year old patient, following a total hip replacement. Female

Patient 3

Patient "What worried me was the fact that the night staff weren't as confident as the day staff when they had to roll me over."

Q "Of what to do for you, or how to do it?"

Patient "Um, yes, I mean at one stage I was very worried, obviously there was a new shift something like that and I almost in fact had to show them where you were supposed to support me, um I took it very sort of light-heartedly but I think I could have, if it had been somebody else they could have been worried about it."

Q "So they did in fact ask you what to do, the nurses, sometimes."

Patient "Well they said um 'I think this is right isn't it' and I said 'no actually I think it's better if you support it, you know, with one hand.' And I think the fact that the night staff used to get as many people around you, you know, there used to be about 4 or 5. Well in the end we used to be able to manage with just 2 nurses. And I think the fact that there were
So many people around, I thought, no you don't want all these nurses, it can be done quite simply."

Q "So in the day time there were just the two?"

Patient "Yes, yes."

Q "But you really felt that there weren't any of these people who were absolutely certain what to do?"

Patient "No, no there was never one, there was maybe a staff nurse who knew, but they would be mainly auxiliaries and things like that, just a little bit, you know, hesitant."

22 year old female patient nursed on skull traction for 6 weeks following a road traffic accident where she sustained a fracture of the odontoid process of the 2nd cervical vertebrae

This patient could certainly have sustained permanent damage to the spinal cord with possible paralysis if she had been moved incorrectly.

It is interesting that both patients 1 and 3 should mention that the staff were "hesitant". A good reminder how perceptive our patients are to slight changes in our mood or attitude.

So, helping the student and pupil nurse to improve their skills relating to the lifting, moving and positioning of orthopaedic patients certainly appeared to be a primary educational need. The following list summarises the main points in this respect which were made in the interviews:-

i) Lifting and moving patients, particularly in orthopaedic wards is a known occupational hazard causing back injury to staff.

ii) Incorrect lifting, moving and positioning of orthopaedic patients can cause unnecessary pain, temporary complications or permanent damage to the patients.

iii) Students' fear of handling these patients may mean that other very important procedures such as pressure area care are not carried out correctly.

iv) Patients' awareness of the lack of skills and knowledge by the students and auxiliaries particularly can cause unnecessary stress and anxiety.
I knew from my own observations and experience when teaching on these wards that lifting, moving and positioning of patients were procedures which were carried out extremely frequently. An additional reason for choosing these topics for inclusion in the learning package.

The following extracts from the interviews show how explicit, particularly the more senior staff, were about the detail of how the patients should be handled. Many of these points were used in the production of the series of tape/slide programmes I made on Lifting, Moving and Positioning patients in orthopaedic wards:--

Ward Sister II. Day Duty

Q  "What ways do you think we can help them (students) to lift and move better early on as well as this underlying knowledge?"

Sister  "It is very difficult because all of the Consultants like their patients nursed in different ways and most of the Consultants don't give any hard and fast rules. It's very dependent on the patient. Now usually on my ward anyway we lift most of the time because it encourages the patient to help themselves a little more if they can use their own hands and their own good leg, that is better for them than us heaving them around. So I think if the patient is enormously overweight it is easier for nurses to roll the patient, if it's a nice slim light patient it is probably easier to lift. As long as the patient is co-operative and does not have any gross problems, say rheumatoid arthritis, then you have to tailor things to the needs of the patient. If before nurses come to the ward they were told that certainly in this hospital anyway there weren't any strict rules, the only thing we do strictly is the Partridge Band fixation - which is new anyway. Nurses will be told - don't worry you will be told about each individual patient's needs.

It would be much easier if you could give them hard and fast rules, like you don't ever lift an Austin Moore or you always roll a pin and plate. But I can't because it has to be tailored to the needs of the patient."

Q  "Bearing this in mind do you think it would be possible to make a relevant video-tape of lifting and moving of some of the general principles?"
Sister "I think it would be possible as long as one was not too dogmatic. If we showed a patient being lifted by holding on to a monkey pole and two nurses lifting him and a nurse changing the sheepskin or something underneath him and the way that the patient's leg is to be supported and the way that the patient is helping himself with the other leg, and then a video of a patient being rolled over, say perhaps the patient had had an Austin Moore, keep a pillow between his legs to keep his legs in abduction, and of course an explanatory talk over, I think that would be quite helpful actually."

Q "It could be done more easily with tape/slides, would you think we could get the principles over with tape/slides?"

Sister "I think it could be got over very well actually, it could be done most effectively. But do not be dogmatic about the types of conditions which should be lifted or moved. If you lift a patient - do it this way."

Ward Sister I. Day Duty

Q "What points particularly would you like to see brought out on video or slides on lifting?"

Sister "That they never attempt to lift on their own, it is not in your interests or the patients', and I think that needs to be stressed before they start, absolutely categorically. Go and fetch help, work with somebody if necessary work with four, don't try and do it on your own, you only land up doing it badly, scraping the patient's bottom because you cannot lift them adequately......Concentrate on the straight lifts up the bed. You have got to do straight lifts for the fractures on traction and you want a good grip with two people holding, wrists to wrist."

Q "What particular technical problems do the students have with lifting when they first arrive?"

Sister "They worry about dislocations. This is the thing that they worry about and I try and teach them all within the first few days what I mean when I say 'be careful not to internally rotate'. And at the moment I accept that as my responsibility to make sure that they know what I am talking about. The other thing is which patients they can turn and which they should not. Which way they should turn. They should turn onto the affected side, you always turn onto the bad side. And that's something they are frightened about and they need to know. Once they have got those little straight-forward points I find it is fine."
Q "This all lends itself to some visual presentation if there is no-one around to talk to them in detail."

Sister "You can turn anybody if you turn them with care but basically as a general rule total hips we don't, we lift, we do straight lifts to begin with. Teaching a patient prior to theatre how to use a monkey pole, and that if they do need to be turned, you turn them on to the affected side, again it is the risk of dislocation that you are worrying about all the time. With the pin and plates you can turn anyway you like, the head has not been touched so that is quite safe and the Austin Moores dislocate, it's a new head. Once you have got that straight and they know what you mean by a stable fracture."

Q "Do you think it would be of help to have something on positioning of sand bags or that sort of thing?"

Sister "You need to be careful as they vary. They should seek guidance as to where and how to sandbag the fracture."

Ward Sister III. Day Duty

Q "In what way do you think we could specially help them with the lifting?"

Sister "Well you see they are old people mostly that one is lifting in and out of bed following fractured necks of femurs, they have their fixation, whichever it may be, pin and plate or prothesis in, how they lift them out of bed especially, say the total hips they must realize they must keep their leg straight, they mustn't cross their legs to dislocate, so many who are probably non-weight bearing, the way that they get those people out of bed."

Q "Would you think we could probably make a video-tape out of this. Just short ones?"

Sister "Yes, you see you have got the pin and plate, how you get them, they will not dislocate, but it's the Austin Moore which so easily will dislocate if you are manouevering them out of bed the wrong way."

Q "How about positioning the patients with fractures?"

Sister "Fractures, yes. When the patient is in bed, for a fractured femur let's say, where the sandbag - the reason for the sandbag being placed under the fracture, it's not just there as a sandbag, it is there as a support."
"I felt here we might be able to do slides for that because it is not so much movement with the positioning. Slides are easier to use. Is there any other position?"

Sister: "The position of the traction when the patient is in bed, so that they are in alignment, so that it is again the patient and the traction and the reason for keeping the patient in that position."

Q: "How about hip replacement?"

Sister: "To realise why we use abduction wedges or a pillow between the legs - that could be on a slide."

Although all three of these Ward Sisters were giving their opinions on the same nursing skills, each one of them brought out small points which neither of the other two had mentioned. This was particularly helpful when planning the content of the tape/slide programmes and highlights the advantage of consulting as large a group of people as possible. The physiotherapist, clinical teachers and staff nurses all made some equally helpful points.

I have equally supportive evidence and detailed information for all the manipulative skills which were mentioned in the interviews (see Table 4.6). From this information and my own knowledge of the wards and training syllabi for the various groups of learners I was able to draw up the objectives in the psychomotor domain, as illustrated in Table 4.8.
Table 4.8 Objectives for student and pupil nurses on completion of Clinical Experience on the orthopaedic wards

B PSYCHOMOTOR DOMAIN (Manipulative Skills)

On completion of your clinical experience on one of the orthopaedic wards you should be able to:-

a) Lift, Move and Position patients in bed following:
   i) Joint Replacement/Surgery       a) Hip
      b) Knee
   ii) Fractured/Damaged Limbs       a) In plasters of Paris
       b) On traction
       c) In splints
   iii) Back Injuries or Surgery     a) Free in bed
        *b) On an electric turning bed
        *c) On a Stryker Frame/skull traction

b) Assist patients to mobilise following Joint Replacements, Fractures and Back Injuries or surgery:-
   i) When moving from bed to chair and back again
   ii) When using walking sticks
   iii) When using a walking frame or tripod
   iv) When using crutches

c) Care for patients on long term bed rest and discuss their special physical needs as regards:
   i) Nutrition
   ii) Elimination
   iii) Mobilisation
   iv) Hygiene
   v) Sleep and rest

*d) Apply skin traction

e) Check the following for patients with skin or skeletal traction and report any abnormalities or problems:
   i) The position/support of the limb
   ii) The cords
   iii) The weights
   iv) The pin sites

f) Encourage patients on traction to carry out the exercises which they have been taught by the physiotherapist and explain why these exercises are necessary.

g) Care for patients in  
   a) Plaster of Paris
   b) Splints

h) Apply the following:
   i) Slings
   ii) Figure of eight bandage to the leg
   iii) Tubigrip to the ankle and knee
   *iv) A collar and cuff sling
   * v) A hip spica

Skills which are starred are uncommon and will only be seen/practised occasionally.
4.4c Attitudes and Interpersonal Skills (see Table 4.9)

Encouraging the appropriate attitudes together with a wide range of interpersonal skills is one of the main aims of nurse education. In some schools of nursing the objectives for the affective domain are not specified in each individual clinical area as the same ones are incorporated at all levels of the course. However I feel that when this is done the objectives are so broad and loosely phrased that they are very difficult to incorporate into any kind of teaching or learning strategies and are almost impossible to assess. For this reason I was keen to establish what particular attitudes and interpersonal skills were needed by nurses on orthopaedic wards that did not necessarily apply elsewhere.

As can be seen from Table 4.9 the attitudes and interpersonal skills which were mentioned most frequently by those I interviewed related to three main groups of patients. These are the elderly, especially women and in particular those who are confused. The young (mainly men between 16 and 20) who may have multiple and/or permanent injuries and those on long term bed rest who may come from either of these age groups. Although students and pupil nurses will have come across elderly confused patients before, particularly on the geriatric and medical wards, it is possibly the first time they have nursed so many young patients around their own age especially those who are in bed for long periods. For this reason the examples I have chosen from the interviews relating to learning objectives in the affective domain mainly concern young patients who have been in accidents. I will, however include some which refer to the elderly as I feel that they are particularly pertinent to orthopaedics.

The first two examples give more of an overall picture of the main psychological and social needs of these patients and set the scene for a lot of the individual needs and problems which will be highlighted later.
<table>
<thead>
<tr>
<th>Attitudes and Interpersonal Skills</th>
<th>Elderly Confused Mainly Female</th>
<th>Young Emotionally Disturbed</th>
<th>General Communication Problems</th>
<th>Attitudes, Long Term Bed Rest</th>
<th>Managing Those Who Are Demanding</th>
<th>Managing Those With Irritable</th>
<th>Other</th>
<th>Possible Total (22)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ward Sisters x 3</td>
<td>3</td>
<td>3</td>
<td>2</td>
<td>3</td>
<td>2</td>
<td>2</td>
<td></td>
<td>16</td>
</tr>
<tr>
<td>Staff Nurses x 3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>15</td>
</tr>
<tr>
<td>Students x 5</td>
<td>4</td>
<td>2</td>
<td>2</td>
<td>5</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>9</td>
</tr>
<tr>
<td>Pupils x 2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td></td>
<td>1</td>
<td></td>
<td></td>
<td>4</td>
</tr>
<tr>
<td>Nurse Teachers x 4</td>
<td>3</td>
<td>3</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>10</td>
</tr>
<tr>
<td>Consultant Orthopaedic Surgeon x 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>Physiotherapist x 1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>Occupational Therapist x 1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Social Worker x 1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td></td>
<td>1</td>
<td>1</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Nursing Officer x 1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 4.9 Analysis of Social Skills and Attitudes Mentioned in Interviews

□ mentioned by at least 50% of people
Clinical Teacher I

Q  "Could you pick out what you think are the particular psychological problems of the orthopaedic patients?"

CT  "Certainly you have to consider the different age groups, in that we get a complete range, and so with the youngsters you have perhaps got problems of 'how am I going to carry on a normal active life, my leg has been smashed up?' and all the mental trauma which accompanies that sort of reasoning, whether they can go back to work etc, and family problems, perhaps they might be self-employed and worrying how on earth they are going to support their family while they are in hospital and afterwards. So there's that sort of psychological problem with the younger age group. And then with the older age group I suppose on the same lines it is independence again, I suppose if an older patient is in hospital they lose their independence and cannot imagine how they are ever going to manage in their own home again and so they do need a tremendous amount of support and positive help and guidance on what they will do in the future and I think we do have a very good liaison with the medical social worker on the ward and there are a lot of meetings between doctors, nurses, occupational therapists and physiotherapists and you get all the different views."

During my own interview with the medical social worker she mentioned a lot of very useful points relating to patients' social and psychological needs. She also referred to the students' own needs and suggested ways of helping them to improve their interpersonal skills and gain a better understanding of the patients.

Medical Social Worker

Q  "What information relating to your role do students need to have before they arrive here?"

MSW  "One of the areas that we think is quite important is the need to be aware that a patient comes from a life and is going on to another situation, and that hospital is quite a traumatic experience within that, particularly if you are coming in as the result of a road traffic accident, you are leaving a lot and you are going home to possible quite serious changes and I think they need to be aware of this. The fact that what happens at home is going to affect your behaviour in hospital, I mean I am particularly concerned that quite a few of the young people regress quite badly."
Q "Would you say that you personally do see this happening quite a lot here, this regression?"

MSW "I have seen it yes."

Q "Because you know we are obviously very aware of this from the theoretical point of view and I think a lot of the nurses don't really realise that they are seeing that, um although I do and I think it is quite hard for them to see that."

MSW "Yes, I think it is because they don't see what the person could have been like before, they just see this child or this young person, throwing a tantrum, screaming, getting very frightened and they think that they are like that normally, I don't know, I don't sometimes think that there is the awareness that this is because there is a lot happening that they are frightened about."

later

Q "How do you think we could help, say young students to appreciate this really?"

MSW "I don't know, I think it is a very difficult area, I think there is a lot to be learnt through role play and experiential learning and having someone there who can actually tell them and work through it with them. I sometimes feel that students are thrown in a bit at the deep end. I know there is a ward sister and staff nurse and yourselves but the crisis often seems to happen when sister is round the other end of the ward and there is no-one there to pick up the pieces, it must be terribly frightening."

Although we do use role play and experiential learning in nurse education it is difficult to do while students are working in the clinical areas. However there are ways of getting over some of the concepts just mentioned by using distance learning. For example patient care studies could be presented on tape/slide programmes or video. Sections could be incorporated relating to the patient's own feelings towards his illness/disability which students were asked to discuss. Students could also keep records of the behaviour demonstrated by both patients and their relations which could later be used in role play situations.
One of the Staff Nurses whom I interviewed confirmed the Medical Social Worker's feelings that on occasions nurses were frightened by some of the situations they met.

Staff Nurse I

SN "A problem on this ward of road traffic accidents, meeting patients whose relatives or close friends have been killed, and they might be responsible, or for hurting someone else. I find this ward actually one of the most emotional wards I have ever worked on because of the tragedies some people go through and because of the length of time these patients are here we become very close to our patients - quite a few nurses, trained ones that is - burst into tears when patients leave after looking after them for so long - I find it very emotional."

Q "Do you think students are here long enough for it to affect them?"

SN "No, but they still see patients coming in after road traffic accidents who are very badly upset and very badly mutilated.

I remember going to see X myself when she first came in when she was lying in bed and feeling quite frightened myself actually, she was in so much pain and both her legs broken, you just could not move her anywhere trying to get her ready for theatre, it was quite frightening."

The physiotherapist echoed several of the points which had been made previously and highlighted a particularly difficult situation which she had to deal with when treating patients in the first few days/weeks following their accidents:-

Senior Physiotherapist

Physio "The nurses perhaps should understand about the psychological effects of, you know, severe traffic accidents, and the shock of it all, and often it happens in the worst time in life, in the late teens when they are starting their careers, they have got enough problems anyway."

Q "Because they don't (the students) meet this age range anywhere else in the hospital, you know this sort of teens and twenties much."

Physio "That's right yes. And from my point of view often they are very bolshy and don't want to do anything, and it takes several days to get over the shock and the trauma of it all."
"Do you find, from your observations do you think many nurses do find this particularly difficult to cope with?"

Physio: "I think it is very difficult for everybody, yes I do think it's difficult. It is probably more difficult for me because I'm trying to get them to do things which they don't want to do."

Q: "That's right, absolutely."

Physio: "Whereas the nurses give tender, loving care to the patients, it's probably a bit easier for them."

Q: "That's right, you're sort of there with the big stick really."

Physio: "That's right, I'm not very popular. But the nurses do understand that, they do give support a bit, and often I have to get help from the nurses to get people to do things."

One of the patients whom I interviewed was very open about his feelings of hatred towards the physiotherapist when he first started having treatment and made some suggestions about how the situation might have been improved:

**Patient II**

P II: "The worst experience was starting physio, I hadn't the faintest idea what was happening and it just hurt so much. I started physio in one of the large wards. They started off giving me electric shocks which just petrified me."

Q: "What, the thought of them?"

P II: "Yes, the thought of them. Of course when I had the shock and my leg jumped everything hurt, and I just wanted to die. I couldn't understand why she was doing it really. Everybody else came along and moved me and made me feel just right but the physio was the first person who seemed to deliberately hurt me, at the time I HATED her."

Q: "So you really had this feeling of antagonism?"

P II: "Yes, real hatred for her, it's like all the sort of anger within me for having the accident, missing my exam, I took out on her, I wrote it in my diary, I called her my physiosadist, it's silly now when I think back because I know why she was doing it, but at the time I couldn't work out what was going on."
"Do you think there is anything that could have happened at the time that would have made it easier to accept?"

"I think if she had sat down and spoke to me more while she was doing it and explained to me exactly why she was doing it, why she was making that muscle twitch and things like that, I'm one of those persons that can't stand not knowing what is going on."

23 year old male patient with multiple injuries following a road traffic accident.

The students themselves were very aware of the patients' social and psychological needs and several of them cited instances of situations which they had found difficult to cope with. The following quotation by a third year University student during the fifth week of her ward allocation includes evidence to support the medical social workers feelings that students are "thrown in at the deep end" and are not helped to work through their own feelings. The student also indicates that she adopted attitudes which she did not altogether agree with in order to avoid being "emotionally affected or exhausted", herself.

University Student

"Did any of them (the younger patients) for instance react to either their hospitalisation, or their pain or their immobility in ways which you found difficult to cope with at all?"

"Mn, I think they are quite demanding, not all of them, but a few of them, really demanding er and it seems that, I can't generalise about all the patients, that one of these young patients seemed to be very demanding and seemed to have more pain than the others, and everybody seems to try to avoid him or, and also they are rather sensitive and he seems to say to the nurses 'do this and do that' ."

"Why do you think the nurses tried to avoid him?"

"I think because he is just complaining too much er which the nurses don't believe that he is having any pain and also he's very distressed because he is a teenager, er the type of chap who likes to go out often, not the type who likes to stay in all the time. So I think it is a very difficult area to cope with (sighs) I find it difficult because you can't say anything to them when they say 'I've got to sit here for weeks and weeks'."
Later on in the interview this student mentioned her feelings when caring for the confused, elderly patients:

Q "You said there was an emotional strain working on the orthopaedic wards, can you enlarge on that point?"

US "I find the elderly very difficult to cope with emotionally knowing that they are old and knowing that some of them need to depend on others and some of them are depressed or confused, I think that is the common problem, confusion. Just how to cope with that sort of confusion, whether they are confused due to other organic causes or due to senile dementia. So I find that very difficult."

Q "You find that a strain really?"

US "Yes, it is a strain. And I know that nurses can do much more if we are brought to an understanding of the elderly, are more aware of how they feel and their condition, but um it is just this attitude of most, you can't generalise, of most of us - we just treat them as, I don't know, sometime as just children or what, leave them alone and not treat them as individuals who have feelings, I don't know I find this area so difficult."

Q "Is it other peoples attitude to them that you also find a strain?"

US "Yes, other peoples attitude and my attitude towards them. I mean it is not going to help me to cope with it really."

Q "So do you find if other people treat them like children or don't treat them as an individual that you're slipping into that pattern?"

US "Yes, I easily slip into it because I don't want to be emotionally affected or exhausted."

Q "How many people do you think feel this way. Do other people talk about it?"

US "I just talked to one of the nurses really, who was a second year S.R.N., I told her that I could lose my temper very easily with these elderly people, that is the area where I was meaning emotionally affected, and she was saying, well she was the same too but she got over it and accepted the fact so I have not actually asked the others - just one person."
The student felt that the best way of helping students to cope with these problems was by having discussion groups between the staff while you were on the ward:—

"To know you are not the only one facing that problem was helpful." University Student

Later on in the interview she made an interesting comment concerning the relationship between the practical and psychological areas of patient care:—

US  "For the first two weeks I  was there I  was busy or rather worried about the technical aspects of nursing, you see once I  get confident and know more about it and can deal with the practical area then I  will be more confident to deal with the psychological areas because you have the worry part over and you can sort of listen to patients now and appreciate them, that's what I  find."

While our students continue to have the responsibility of caring as well as the responsibility of learning it seems likely that this order of things will remain in spite of all the lip service we may pay to the concept of 'total patient care'.

One of the patients I  interviewed was particularly articulate and was very open about his feelings and problems following a severe accident in which he received multiple injuries. These included complicated fractures to the right foot, patella and femur, the left hand and lower jaw. He had been in hospital for three months when I  talked to him and was shortly to be discharged. The following quotations include some of his comments which I  found very helpful when compiling this section of the learning objectives.

Patient 2

Comments on loss of independence

Q  "Have you thought about how dependent you have been?"

P 2  "I  didn't like it, I  didn't like it at all being so dependent, I  found it, after being so independent, I  found it embarrassing, humiliating you name it, I  felt that, and I  found it very annoying that I  couldn't do anything for myself."
Comments on fear of pain

Q "Can you talk generally about your feelings about pain?"

P 2 "Yes, I have no tolerance of pain at all, I knew that before, I have never suffered as much pain as I have since I have been here and it petrifies me, it frightens me, pain. My mother was in pain for most of her life - she had rheumatoid arthritis and how she coped with it I don't know. When I woke up and I was in pain I just did not know how I was going to survive it and every time they came round with their 'bum rounds' as we call them I couldn't work out why they ever so regularly kept on hurting me......and of course I didn't help because I was so frightened I'd just go rigid. If I could have relaxed it wouldn't have hurt so much, I know that now, but no matter what they said to me at the time, I just could not relax."

Coping with long term bed rest

Q "So did you slip into this timeless state or do you think you tried to get yourself into it?"

P 2 "I did it deliberately, I didn't work in days, I worked in lumps of time, I would say well now I am 1/3rd through and that way it didn't matter if it were days, weeks, months or years......that's how I tried to work and it worked for me, I couldn't have counted the days, I had terrible trouble working out what day it was, even with my diary, I was never sure whether I had missed a day. It was not until the newspaper came round that I was absolutely certain that it was say, Wednesday, that was for a very long time."

(Had been in hospital 12 weeks)

Feelings about ringing bells and calling nurses:-

P 2 "I never liked using the bell, it's very strange, it's almost as though they were servants, and I didn't like that at all."

Q "So it really quite worried you having to ring the bell?"

P 2 "Yes, especially if I knew they were doing the report, I would always try and wait, and I'd always manage to mis-time it, they had always not quite finished or just started you see and I used to hate doing that I really did. It was nice when I was able to sit on the edge of the bed, look out of the door, I felt better if I knew one of the nurses to call her, I don't know if they preferred that but I did."
Feelings about being discharged:-

Q "Have you any feelings of apprehension about getting out there again?"

P 2 "Yes, I went out for a ride yesterday and I saw all the cars going past, everything seemed to be moving so quickly, I just didn't know how on earth I was going to cope. The worst thing is that if something goes wrong you haven't got a buzzer to press, that's the worst thing, if something goes wrong you haven't got someone you can trust who knows what to do... the security is not there."

Feelings of depression and embarrassment:-

P 2 "I used to get very down sometimes, very depressed and I always kept my ear out and waited until it was quiet outside, so that if I wanted a chat I wasn't going to drag a nurse away from the middle of something, I tended to work out, I could hear when they were busy outside."

Q "Did you find this depression had any sort of pattern - was it worse at night or in the day or in relation to anything particular?"

P 2 "I found it got worse, it was quite bad after physiotherapy, because I wasn't getting any better, that was the worst thing. I was convincing myself that I was never going to get any better, and that used to send me into quite heavy depression and sometimes at night I would think, especially about my exams, not being able to take them and that would make me very depressed."

Q "It has in fact put you, how much behind?"

P 2 "Six months behind, it is very annoying..... I found that I have never cried so much in my life since I have been here."

Q "Can you as a mature man give your feelings about crying, because as you say it is probably something you haven't done for some time?"

P 2 "I found, I never really had much difficulty, I mean I try not to, but here I never felt embarrassed or, well, sometimes I could not really understand why on earth I was crying."

Q "It just started?"
"It just started for no reason at all and I was quite embarrassed about it in the ward, I used to slide under the bedclothes."

"When you were with the other men?"

"Yes, but here (in a single room) I just in the end, I always felt better after a good cry, it sounds silly but er, I'd just have a good old cry and get it all out of my system and I'd feel a bit better and I found the nurses were very nice, you know if they came in they would act as if nothing was happening and let me get on with it."

"At times I found it difficult to relate to the very young student nurses, it wasn't so much the student nurses it was the young auxiliary nurses I found it difficult to relate to."

"Do you mean when you were depressed or all the time?"

"Personal things, personal needs and I got quite embarrassed but I never got so embarrassed with the blue uniform, I don't know if it sounds silly .... if the uniform was brown and they were young they weren't so like real nurses. Now it doesn't matter, but that is how I felt first of all."

"Do you think they realised you were embarrassed?"

"I think they did.....I was never rude or showed it, I tried to hide my embarrassment, but I think they knew, and they'd work round it and they totally ignored my embarrassment which I think helped. They didn't ignore it as if it didn't exist, they ignored it as though they weren't embarrassed themselves."

"I have never lost my embarrassment about asking for a bedpan. I just could not quite cope with going to the toilet in bed - that is one thing."

"So you feel how ever long that had gone on you would never really have got used to that?"
P 2 "Yes, I found that very embarrassing and I was always horrified that someone would walk into the room....I got to the point where it didn't matter if it was a nurse but if the auxiliary staff came in I just could not cope with that at all. I found it difficult to do anything at all. I found it difficult to do my physiotherapy with the auxiliary staff in the room."

Although many of the nurses mentioned patients becoming embarrassed, I felt that only one of the patients themselves would have brought out this last point relating to his reactions to the different grades of staff. The role of the auxiliary is constantly being debated, we should perhaps involve patients more in these discussions.

The advantages of interviewing a wide range of people apart from the nursing staff was again emphasised when considering the needs of the relatives. As can be seen from Table 4.9 only two of the people whom I interviewed mentioned the relatives. The first one was a student who only referred to them in passing, the second being the medical social worker. She made the following interesting points which are not likely to have come from any of the nursing staff:--

Medical Social Worker

MSW "I think possibly the most difficult thing to come to terms with (for the nursing staff) in many ways, why at the time of need when you are giving so much care and so much love to a patient, the people who should care are the ones who pull right away, and perhaps they need to be aware that people have their own feelings to deal with and that relatives are sometimes ignored in the nursing world."

A little later on in the interview she went on to say:--

MSW "Lots of daughters have feelings about washing Mum" (when she has gone home).

Q "Yes, and they talk to you about that?"

MSW "Yes, and I wonder how much they tell the nurses, you know...."

Q "Because it's a reverse role thing?"
MSW "It's a reverse role thing and that's another thing, do nurses realise how much a reversal of role it is when Mum becomes the helpless child and child becomes the caring Mum?"

later

MSW "And another area, I think, to change the subject somewhat is that they can't understand, I find one of the difficulties is nurses not being able to understand that coming into hospital is a fantastic relief for some daughters, and that the person that you as nurses see is not always the person that the daughter sees and the difference of wearing a uniform and being able to say 'come along Mrs. Jones you have got to have your breakfast, use the bedpan, have a wash, comb your hair, get dressed' it's very different from 'Mum would you mind.' And the dear little old lady with white hair, up the corner, in bed being terribly co-operative isn't the grotty old dragon at home and they say (the nurses) 'but she is so sweet!'"

I got many other examples of the special social and psychological needs of orthopaedic patients and their relatives during my interviews. By using these examples in combination with my own observations I was able to draw up the learning objectives in the affective domain as shown in Table 4.10.

Material gathered during these preliminary interviews was also used to draw up the ward profile which was included in the students' workbook/studyguide (see Appendix 4). This ward profile was to give the students some background information on which to base their learning experiences.

Early in 1982 when all the learning objectives and the ward profile were finished I held a meeting of the senior nursing staff on the orthopaedic wards (The Nursing Officer, Two Wards Sisters, One Staff Nurse and the Nurse Tutor) to get their approval. Apart from a few minor alterations to the wording they all accepted them very willingly and were happy for me to proceed to the production of distance learning materials based on these objectives (see Chapter 5). I also confirmed with the physiotherapist, occupational therapist and the medical social worker that they were happy with any information arising from comments they had made.
C AFFECTIVE DOMAIN  (Attitudes and Interpersonal Skills)

On completion of clinical experience on one of the orthopaedic wards you should be able to:-

1) Show an awareness of the special psychological and social needs of young patients on long term bed rest particularly those who have sustained permanent disabilities.

2) Appreciate the reasons why these patients may become frightened, aggressive, frustrated, antagonistic, unco-operative, depressed, embarrassed, humiliated or bored. Demonstrate some ability in handling patients who behave in these ways.

3) Provide opportunities for and encourage the patient and their relations to express their underlying fears about the outcome of their illness or disability.

4) Handle elderly patients in a sympathetic way demonstrating patience and encouragement, particularly those who are confused.

5) Encourage independence in all patients throughout the whole course of their illness.

6) Show an awareness of the needs of the relations making special reference to the problems which occur when patients have long term loss of independence.

7) Demonstrate gentle, sympathetic handling of patients in pain or discomfort.

8) Demonstrate an ability to adopt your attitude and approach to each patient according to their individual needs.

9) Identify your own feelings and be able to discuss the reasons why you may feel anger, hate, frustration, pity, fondness towards a patient or their relatives.
4.5 CURRENT METHODS USED TO TRAIN STUDENT AND PUPIL NURSES
ALLOCATED TO THE ORTHOPAEDIC WARDS. OFFICIAL AND UNOFFICIAL
SOURCES OF LEARNING?

Student and pupil nurses learn from many sources while they are allocated to the clinical areas. As well as the tutors and clinical teachers, official sources include the qualified nursing, medical and paramedical staff who are permanently attached to the area and the specific theoretical work that the students have been given to study. Unofficial sources include other students and pupils, nursing auxiliaries, patients and individual study.

During my interviews I was looking for evidence of both the amount and type of information that learners gained from these various sources.

I was well aware of the background information concerning orthopaedic nursing which the student and pupil nurses received before they started their trauma unit together with the content of their official study day and interblock work (see Appendix 1 and 2).

I know that the Clinical Teacher who was attached to these wards on day duty spent two days per week in these areas and that the Clinical Teacher on night duty was the only one in the hospital, meaning she was also responsible for learners on six other wards. However I was not at all sure of the work strategies adopted by these Clinical Teachers.

I knew that compared with many other areas the proportion of trained staff to learners was high on the orthopaedic wards on day duty (see Table 4.11). However I did not know what effect, if any, this had on student learning. Neither was I sure to what extent the medical and paramedical staff were involved in teaching the nurses in training.

I looked first at the official teaching programmes from the two clinical teachers. The one on day duty did have a plan of topics she tried to cover with the students but found that this had been upset by the introduction of the 37½ hour week:-
Table 4.11  Staffing Levels On The Orthopaedic Wards During The Time Of The Preliminary Interviews

1)  Day Duty

<table>
<thead>
<tr>
<th>Ward A</th>
<th>Ward B</th>
</tr>
</thead>
<tbody>
<tr>
<td>1  Ward Sisters</td>
<td>2</td>
</tr>
<tr>
<td>4  Staff Nurses</td>
<td>3 Full-Time</td>
</tr>
<tr>
<td>5  Enrolled Nurses</td>
<td>1 Part-Time</td>
</tr>
<tr>
<td>2 - 3 Student Nurses</td>
<td>2 - 3</td>
</tr>
<tr>
<td>1  University Students</td>
<td>1</td>
</tr>
<tr>
<td>3  Nursing Auxiliaries</td>
<td>4</td>
</tr>
</tbody>
</table>

2)  Night Duty

Both Wards (Any One Night)

1  Ward Sister between Ward A and B + One Other
1  Staff Nurse or Enrolled Nurse
1  Nursing Auxiliary
1  Pupil Nurse

Clinical Teacher 1 (Day Duty)

CT1  "How I work on the ward at the moment is that for their four week allocation I have planned a set number of topics that I feel might crop up during those four weeks and I give them all guidelines on those topics, emphasising to them to link it to patients on the ward."

Q  "Would you in any way at the moment give them a list of what they might be going to do, what they might be going to discuss with those topics?"

CT1  "I haven't done that."
CT1: "Before they had a half day each week I did have the opportunity to put up on their notice board certain questions that I wanted them to think about around a topic and to um think about a patient on the ward, or that they were nursing and what was actually happening to them and then we could um talk about the topic and the patient and the question that I had actually asked them to think about."

Q: "And did they do that on the whole?"

CT1: "On the whole they were quite good in fact. But I have found that since they do have the half day I am less likely to be able to see them for a set time."

Q: "So it's made quite a big difference really?"

CT1: "It's made a lot of difference, and so most of my teaching is on a one to one basis as we are carrying out nursing care, so what I try and do is ask the ward staff to allocate us to a few patients and then um we try and assess those patients' problems before we start and do sort of mini care plans in our minds from the information that the nurse has and I have and the information we have gleaned from the report and carry out care accordingly and we look at notes and we look at X-rays and we talk to the patients and try and build up a picture that way."

Q: "So you would say since the 37½ week your work has been much more one to one?"

CT1: "Yes, definitely."

The amount of direct teaching the Clinical Teacher on night duty was able to do was also very dependent on the pressure of ward work. The teaching she did manage was again usually on a one to one basis and was only for comparatively short periods. She was not able to carry out any definite teaching programme and discussions and visits to other departments were very much governed by circumstance. It is interesting to note the number of times both these teachers mention the word "try". In a situation where student and pupil nurses are part of the work force educational needs are invariably secondary to the needs of the patients. The Clinical Teacher is frequently striving for a goal she knows she will be unable to attain:-
Clinical Teacher on Night Duty:-

CT  "I try to do two or three hours with each one of the pupils sometime during their first few weeks on the ward." (Work in the practical situation with the pupil.)

Q  "So what other ways do you think they learn?"

CT  "We try to have discussions and tutorials on various aspects of orthopaedic care, various types of orthopaedic conditions and operations, as I say I try and get the bits and pieces from theatre so they can actually feel them and handle them."

Q  "This would be one to one or one to two sometimes?"

CT  "One to two at the most usually, because there is just not the staff to take them off the wards otherwise um and I find that the discussions work better than the tutorials, um, they like to be involved in what they are doing."

Q  "And how long would those last each time?"

CT  "Oh, they vary, quarter of an hour, twenty minutes, half an hour, it depends what we are discussing and what the work load is. I try to get them down to accident centre if there is anything unusual going on there so they can see the patient from the ward when they come in and then they can follow their care on through."

Q  "So in fact would you say that is easier at night to do, to get them down to accident centre, than it is in the day time, because you're more aware of what's going on elsewhere?"

CT  "Yes, and also the Sisters in Accident Centre know that I like to know what's coming in and I carry a bleep so that if there is anything they let me know."

Q  "So would you say that most of them get down there at least once during their nights."

CT  "I try to get them down there, yes, but I mean you can't guarantee that somebody orthopaedic is going to come in while they are there, but they've been down to see suturing and plastering and that sort of thing, which they find quite useful."

Q  "How involved do the staff nurses get in the teaching, I know that will vary with the individual?"
"Yes, some of them are orthopaedic trained, two of them, which is quite useful. They are all very good with the pupils, they explain anything new that they haven't come across before, anything that neither of them know they ask me and if I don't know we look it up, so one way or another we sort things out."

"So it's more of a team effort perhaps at night?"

"Yes, that's right, yes."

"Do you think they feel less vulnerable, the staff nurses, than perhaps, if they don't know they are more prepared to admit it perhaps, at night?"

"I think so, it's a more relaxed atmosphere, it's more conducive to learning, there aren't the barriers."

"What sort of barriers do you think there are to learning in the day time?"

"Um, I think rank comes into it quite a lot, you know, they are very much more conscious of each individual's position than they are at night, um whereas during the day it's Sister, Staff Nurse, Students, at night you are the team, because there are fewer of you and you all muck in together there just isn't the difference."

"No, that's a really interesting point. How about the report, do you think that is a learning situation?"

"I think it would be if the nurse could just bring herself to ask more questions and a lot of them are reluctant to do this."

One of the staff nurses offered a suggestion as to why students don't ask many questions during report.

"Students don't ask many questions during report, I wish they would ask questions. I feel it's more difficult for students on these wards as most people are trained and I think the students feel a bit self-conscious, they feel silly because they think we know all the answers."

The pressure of ward work has an even greater effect on the amount of teaching that the permanent qualified nursing staff can give to students than it does on the Clinical Teachers.
Several of the qualified staff showed a great awareness of the students' needs and were really worried that they could not give them more support:—

Ward Sister I

WS "I do find it a strain, I am terribly aware of the time I can't spend with them, that I know perfectly well that they need. Somebody needs to be working with them. I am used to working in intensive care, where I have given students total support, personally. I used to take the greatest of joy, working with a nurse, showing her how to do total patient care, working with her throughout the day, tremendous. I knew that by the time that student had left the unit she really knew what she was doing. I do feel that we don't give them enough support. I think they are left on their own too much and I can see their faces floundering and I always hope that I have enough time for them but I just do not have enough hours in the day, however many hours I work it just isn't enough. There are too few clinical tutors and they don't spend enough time with the girls, no-one's personal fault, it's the system at the moment, there just aren't enough hours with these girls."

Staff Nurse IV

Q "How do the students learn at the moment?"

SN "They don't really, our clinical teacher isn't here."

Q "But do you think that is the only way they learn?"

SN "No, I think it would be nice if we could give lectures but we haven't got the time. I feel students do learn during clinical practice if they are with the right people, I mean the trained staff, but this doesn't happen very often, some mornings they just have to muddle through somehow, students are on their own in a bay with the auxiliaries. They have to do this right from the beginning. I feel it was easier to supervise students with the old ward design" (Nightingale style).

On the other hand some qualified staff did feel that there were some positive ways that they could help students to learn. However there was still no indication of any structured teaching or learning programme.
Ward Sister II

WS "I would like to think there are several ways that students learn while they are here, obviously each group varies. We give very full ward reports when we encourage students to ask questions. Students are allocated to work with trained nurses and again are encouraged to ask questions. Most trained staff like teaching, chatting while they are actually doing the job. A few of them have done their orthopaedic training.

We do formal teaching if we have time. I feel some students feel that unless they are being lectured to they are not learning and I think that they should feel that all their nursing skills can be improved and they can learn new nursing skills when dealing with the patient, it is a learning situation as well as a caring situation and I don't really think the two can be separated out."

Staff Nurse I

SN "We try to remember to tell new students when we have them on the ward 'Oh and by the way you can't roll this patient because of dislocation' and then you put them to work with someone who knows the ward and so will hopefully show them how to lift - that's really how we cope with it at the moment but there still comes a time when perhaps you forget to tell them."

Both student and pupil nurses gave examples of how they had just 'picked things up' as they went along. None of them gave any indication that there had been any structure or plan behind the ways they learnt. Several of them mentioned that they had learnt the most from either each other or the auxiliaries:-

Third Year Student in the Final Week of Her Allocation

Q "Who in fact has taught you to lift and move since you have been here?"

Student "Well, no-one has taught me specifically, really, it's just going round with the other trained staff and doing it and you gradually pick up, you know, what you can roll and what you can lift and things."

Second Year Student in the Final Week of Her Allocation

Student "The worst thing is you don't have the report until 8.30am and you come in in the morning and you just go straight in and start getting people out of bed, if you don't know what you are doing you don't know how to lift them properly or if they should be
lifted or rolled and in fact I still didn't know
that until fairly recently which you can do. I found
out by asking a third year student, she told me you
lift these and not those and you keep their legs
straight and all that sort of thing."

Pupil Nurse II on Night Duty (Sixth week of her allocation)

Q "What ways have you learnt while you have been on
night duty?"

Pupil "Well X (another pupil nurse on night duty who had
done her orthopaedic training) has been the main
source, um, I've had one sort of quarter hour
lecture from the Clinical Teacher. Once sister
came up to the ward and lifted a patient with me
and explained about a Thomas's splint."

Q "How early on was that?"

Pupil "That was last week."

Q "Oh, after you had been here about 5 weeks."

Pupil "Mn, the Clinical Teacher came about the third
or fourth week and that's it."

Q "So you haven't had a lot of organised teaching?"

Pupil "No, not at all. I've just had to ask people
on the way, you know if I don't know."

Q "So the staff nurses are helpful, they answer any
questions but not perhaps do special teaching sessions?"

Pupil "No, they don't do any teaching things at all."

Q "Can you think of any reasons for that?"

Pupil "Well it's been mixed up on this ward because
somebody left. We have had some of the day staff
on who don't know the ward anyway at night."

Q "No day in-service, night duty?"

Pupil "Yes, just for a week. Um, so I suppose that's
been the start of it. I don't know, there don't
seem to be enough staff around anyway, so they
haven't had time to stop."

Q "Are there any other ways you have learnt?"

Pupil "Well through the book, the notes and X-rays."

"The book" is one which was made up by one of the Clinical
Teachers to help student and pupil nurses to understand common
orthopaedic procedures.

Pupil Nurse I on Night Duty (Sixth week of her allocation)

Pupil "...I don't think we had any real problems with lifting."

Q "No, you understood where you were trying to get the patient?"

Pupil "Yes, yes and the auxiliaries were quite good, they knew exactly what to do, as they had been there quite a long time, so they told me and I sort of picked things from them."

Q "So, they've helped you quite a bit?"

Pupil "They have, yes."

Q "What about positioning things like sandbags for the fractures. Did you understand where they all went and why?"

Pupil "Well um, not having been shown before, um it was a bit difficult, but it was the auxiliary again she sort of explained what she knew."

Many of the nurses in training were however very much aware that although the auxiliaries may have been on the ward for quite a long time they did not necessarily understand the reason for their actions:

Second Year Student Nurse (Has done her O.N.C. training)

Student "Quite honestly it's not just the new students but it's the auxiliaries on there as well, they are probably the worst, they have got no clue, you know you sort of grab one and say can you come and help me do this and they say 'you can lift that on your own'. The younger ones who have come recently do not seem to be told anything about orthopaedics. If they are going to be there permanently, for a much longer time, they are going to be as great a danger as we are!"

Both students and trained staff emphasised how physically and emotionally tiring it is working on an orthopaedic ward and two students at least felt this affected their learning ability:
Two Second Year Nurses (both with their O.N.C.) interviewed together in the fourth week of their allocation

S II "And another thing to stress before going on orthopaedics is that it really is hard work. The last month, I haven't before, I have come home each night feeling really tired because I have done a hard full days work. It is a slog, just sheer slog, I could happily have gone to sleep about 9.30 or so but I have had things to do. And it should be stressed that it really is hard physical work."

Q "Because of this do you think it is harder to learn on there, because you are physically tired?"

S I "You don't get time."

S II "No, you are too concerned with making sure they are all washed, dressed, cleaned and fed to worry about anything else - like learning!" (all laugh)

The nurse tutor also stressed how tiring these wards are and felt that the students needed more support in coping with the psychological and emotional demands which the patients made:--

Nurse Tutor:--

NT "They are physically tired on the orthopaedic wards not only because it is very heavy but because it is psychologically demanding. You get these youngsters, these ton up lads with their motor cycle accidents who usually have got some psychological and in some cases I would say psychiatric background, they find it very difficult to cope with the emotional demands of them and the old ladies are often confused and they have that to cope with."

There was quite a lot of evidence that the students got some teaching from the physiotherapist, particularly concerning the lifting and moving of patients. The Ward Sisters marked on the off duties the official times that the students should spend with the physiotherapist although occasionally this was not possible due to pressure of work.

Third Year BSc Student:--

Q "How about lifting and moving the patients, did this present any particular problems, anything new that you hadn't dealt with before?"
Student "I think that was the first problem I met when I went to the ward, because having a vague idea about orthopaedics I thought how would you lift the patient. This was the most important problem to me basically. Not knowing when to mobilise the patient, when they have their operation and how to do it the correct way. But the physio taught me certain areas."

Q "So what particular things did you learn from her?"

Student "Er, how to transfer the patient from the bed onto the chair, um and how to get them from the bed onto the floor to walk, certain areas like this - um, when to move the patient and how to move the patient in bed especially when they have had a hip replacement and what position they should be in."

Physiotherapist

Physio "I always get the patients out of bed initially anyway so I show the nurses what has got to be done with each patient."

Both the Medical Social Worker and the Occupational Therapist felt that it would be helpful if they could spend a session talking to the students about their role but neither had been given the opportunity to do so. Teaching from the doctors was very spasmodic and again not on any sort of regular basis. However one of the Ward Sisters felt that the doctor's role in teaching the student nurses was important although she thought that doing a ward round with the doctors was more helpful than going to the clinic:--

Ward Sister I

Q "How do you see the doctor's role in teaching students?"

WS I "I think it is very important, more and more I am getting very good offers from the registrars and consultants to do teaching rounds, and this is something that I encourage totally, we are getting a lot of support from them."

later

WS I "I am not terribly convinced how useful the clinics are and I have talked to the Clinical Teacher about it. It depends on which clinic and what mood the Consultant is in. I think a good ward round is more useful, now we are integrating the nursing process I hope there will be more occasion for them to be on the round."

None of the students mentioned that they had accompanied the doctors on a ward round but one of them commented on learning
quite a lot when she went to the clinic and together with several other students and pupils said she had used notes and X-rays to help her learn:-

**Student Nurse V (during final week of her allocation)**

Q  "In what ways have you learnt something while you have been on the ward?"

Student  "Basically, really just by working and just looking at things and finding out and asking questions."

Q  "Have you always been able to find out?"

Student  "Yes, I've used X-rays quite a bit and notes."

Q  "Have you been on any doctors rounds?"

Student  "No, I went to the clinic and learned quite a lot from the Consultant."

Later in the interview this same student made an interesting comment about reading and studying away from the ward area.

Student  "I haven't done any reading away from the ward because I don't know what to read. You don't know where to start because you don't know anything."

One of the staff nurses also commented on the lack of written information for both students and trained nurses:-

**Staff Nurse IV**

SN  "I feel there is not enough information on surgical procedures for the students to get at. We have only got one good book 'Orthopaedic Procedures'. There's no back up source of knowledge if students are interested. There's not enough for us either really."

There is no financial provision for bench books in the ward areas from either the School of Nursing or the service division. Any books that are kept permanently on the wards have been given or purchased by monies presented by grateful patients or their relatives. These books tend to go missing very easily as they are not indexed or cared for in any official way. What little reference material there was available was kept in the Sister's office on both of the wards. Each ward had two or three text books, none of them very up to date
and a few relevant articles and information on various orthopaedic products from manufacturers. Both wards had examples of one or two metal orthopaedic implants in a box and one ward had a few full sized human bones and a miniature skeleton which the Ward Sister kept on her desk for teaching both the students and the patients' relatives.

The Clinical Teachers had several relevant up to date books on long term loan from the School of Nursing Library which they kept locked in the Instructors' Room. They used them during teaching sessions and for their own reference. The Medical Centre Library which contained a good selection of up to date medical and nursing books together with current journals was on the ground floor of the hospital. This was only five minutes away from the orthopaedic wards and was open to all professional hospital staff including nurses. The School of Nursing Library however was two miles away and was only open during office hours. All student and pupil nurses are introduced to these libraries at the beginning of their training and are reminded about them throughout their course.

4.5 a) **Summary of the official and unofficial sources of learning by the student and pupil nurses during their allocation to the orthopaedic wards**

At the beginning of the Trauma Unit both the student and the pupil nurses were introduced to a central core of topics relating to nursing orthopaedic patients while they were in study block in the School of Nursing.

For the student nurses on day duty there was a Clinical Teacher who came to the ward two days per week. Most of the teaching she did was on a one to one basis and was centred around the care of patients in the working situation. Until the introduction of the 37½ hour week she had managed to organise some group teaching and discussions during the afternoons
but this was now difficult as all students had an extra half day off duty. It was also more difficult to keep to any organised programme of topics as teaching was more dependent on the patients' needs rather than those of the students. The Clinical Teacher did put up some guidelines on the students' notice board as to what should be studied which they followed quite well. However students did not receive any written information relating to a teaching or learning programme which they could study individually.

The Clinical Teacher on night duty was responsible for all the student and pupil nurses who were working at night in the Hospital (eight training wards). Because of this she could usually only manage one practical teaching session with each pupil nurse during the whole of their allocation. She tried to fit in 15-45 minute discussions on relevant topics with one or two pupils together at times when the ward work was less busy. Occasionally she managed to organise visits to the Accident and Emergency Department so that the pupils could see clinical procedures relevant to orthopaedics such as plastering or the insertion of a Denham pin. Sometimes she got instruments or examples of orthopaedic implants from the operating theatres so that she could explain their use to the pupils on the wards. However due to the uncertain pressures and circumstances surrounding the care of patients it was not possible to carry out any regular or organised teaching or learning programme. This Clinical Teacher thought that there was a more relaxed atmosphere at night where all the staff worked together as a team and were not inhibited so much by the hierarchal system present on day duty. She felt this environment was more conducive to learning generally.

On the whole the qualified nursing staff working on the ward on day duty were aware of the learning needs of the students. There was evidence that some of them did make a definite effort to arrange that students should work with a member of trained staff and that when possible they would get a group of students together for a discussion or a teaching session.
However due to the pressures of ward work or the fact that the students were only allocated to the ward for a month they were not able to give them the teaching and support they felt they needed. Several of the trained staff said that the students were left to work on their own or with the auxiliaries and that supervision of students by trained staff was more difficult in the new style hospital with seven or eight separate ward bays.

The most consistent form of teaching which was carried out by the trained nursing staff was the ward report, although several people were disappointed how few questions the students asked during this time. It was suggested that the high proportion of the trained staff to students on the ward may inhibit rather than encourage students' questions.

The majority of students had teaching sessions from the physiotherapist particularly relating to lifting and moving patients and exercise routines. Most of the students had a session down in the fracture clinic where they received some tuition from the medical staff and some of them were involved in the Consultants' ward rounds.

Overall however, as with the Clinical Teachers there was no organised or regular teaching or learning programme provided by the trained nursing, medical or paramedical staff.

Student and pupil nurses on both day and night duty commented on how very 'heavy' both these wards were. This meant that they got very tired which made learning more difficult. Many of them cited instances where they had learnt some of the most important points relating to the care of orthopaedic patients from other students or pupils, from the auxiliaries and sometimes from the patients. Many of the learners said they had just 'picked up' important pieces of information either by asking questions or observing other ward staff. Several students and pupils said they had learnt by using patients' notes and X-rays and a few had referred to text books or articles which were kept on the ward.
4.6 METHODS OF IMPROVING THE PRESENT TEACHING/LEARNING
SITUATION. OPINIONS CONCERNING THE INTRODUCTION OF
A SCHEME OF SELF DIRECTED LEARNING MATERIALS?

During the interviews many people made suggestions
as to how the present situation for teaching students could
be improved. Although the project I was setting up would
not fulfil all these suggestions I felt it was very important
that I should use some of them in order to facilitate the
acceptance of the scheme by both the teaching and the ward
staff. Throughout the production stage I therefore endeavoured
to take every possible opportunity of informing individual
staff whenever I incorporated one of their ideas.

The types of suggestions which were made fell roughly
into the following categories: The need for more specialist
personnel, better use of existing personnel, improved methods
of introducing new concepts to students, introducing new
methods of patient care, introduction of more learning aids
including objectives and workbooks.

I intend to enlarge on each of these points and give
some examples of some of the comments which were made.

Several people saw the need for more nursing staff
to have a specialist qualification in orthopaedic nursing. It
is not mandatory to have specialists on orthopaedic wards
although hospital policies do vary. Nurse managers would usually
state that a specialist qualification is preferable in any
advertisement for new staff but because specialists are in
short supply they may not get any applicants of this calibre.

Nurse Tutor 3

NT 3  "One of the problems we have as far as the wards
are concerned is that we have only got one trained
orthopaedic nurse on both of the wards." (This
comment related to Ward Sisters, i.e. one out of three.)

Two of the student nurses were very adamant that not
enough of the trained staff had expert knowledge and stressed
the need for more of them to have the O.N.C. qualification:
Second Year Student Nurse

Student II  "I think if you work on a specialized ward it is your duty to go out of your way to learn it. I mean to say nurses talk about being a profession and what do you find, they do their three years, do their training, they never read the Nursing Times they never read the Nursing Mirror they never even look at another book, from the time they finish their training until the time they retire. And yet they have the nerve to expect other people to call them a profession. Well, professions lawyers, doctors, they never stop learning, they are always doing something different. And how can you expect people to treat you as a professional if that's it, and as far as I am concerned so far, nursing is more like a trade, you are doing an apprenticeship, because these people are not interested in educating themselves after they have finished their training. I think it is diabolical."

From the point of view of producing distance/self-directed learning materials the involvement of a specialist is essential. I was fortunate in being able to get the assistance of the Clinical Teacher who was orthopaedic trained.

One of the Ward Sisters felt that what was needed to improve the learning environment was more Clinical Teachers.

Ward Sister I

Q  "Are there any other ways we could help students to learn?"

WS I  "More continuity of Clinical Teachers, more people, there are just not enough."

In fact unfortunately soon after these interviews the Clinical Teacher cover for these wards was reduced to a point which the Nurse Tutor felt emphasised the need for learning packages.

Nurse Tutor 3

NT3  "There is only one clinical teacher at the moment who unfortunately will be leaving shortly. There will be a replacement for her but this clinical teacher will only be working there very part-time so I think any further learning they have will have to be in the form of packages, self learning."
The Medical Social Worker and the Occupational Therapist, both specialists in their own field, said that they would be happy to help with the education of the student and pupil nurses and felt that it was important that the learners understood their role. They thought it would be possible to have a session with each group as they came to the ward or if not they could produce an information sheet. They both said they would be happy to help with the production of learning materials.

There were several suggestions, particularly from the teachers as to different methods which could be used to help the students to learn better. They mainly related to improved preparation before students got to the wards or during their first few days.

**Clinical Teacher (Night Duty)**

**Q** "Thinking of this lifting problem alone, do you think there is any way we could better prepare the nurses for this?"

**CT** "Could they come on the wards and see the patients being lifted during the day perhaps?"

Quite soon after this interview it was arranged that the pupil nurses should spend the first week of their allocation on day duty before doing seven weeks on nights. Once the learning packages were produced this was an added advantage as the materials could be issued and explained to the pupil nurses during this week.

The Clinical Teacher on day duty felt that there should be a definite introductory session for all students and pupils sometime during the first couple of days after they started on the ward. She felt that correct instruction on lifting and moving patients was the most important issue at this time and felt that the use of a video-tape would be appropriate.

**Clinical Teacher I (Day Duty)**

**Q** "Yes, could you see a video-tape helping here perhaps?"
"I think certainly a video-tape would be useful, um perhaps in our hours chat, the morning or the day before they start on the wards, just giving them a pictorial view of what they might be doing. Yes that would be very good and it might be nice if they could actually go back to it, if it could be around for a while so that they could refer to it."

One of the Ward Sisters hoped that by using the nursing process for patient care it would help the students to learn more effectively. Her ward was about to be used as a pilot study for the introduction of the nursing process.

Ward Sister I

"I am very much hoping that when we get the nursing process under way that this is going to improve not only the patient care standard but it is going to improve the student nurse's learning because she is going to be more involved."

When producing the learning packages it was a problem to know whether to presume that the nursing process was being used or not, as only one ward was involved in the pilot study. It was eventually decided to use the term 'individualised patient care' as this seemed more adaptable to any system. I knew from my previous experience how frustrated students became when they were taught the theory relating to the nursing process and then did not see this happening on the wards.

Several people suggested the acquisition of specific visual aids which they felt would help with the students learning. For example a display board with the various orthopaedic prothesis, diagrams of patients on traction and a full-sized skeleton. I was delighted that some of them also saw the need to put the onus for learning on the student and saw the relevance of learning objectives, workbooks and tests.

Ward Sister II

"The students cannot be harmed by too much visual stimulation. However they would need work sheets to go with this. Books are often off-putting and students do not make much use of them."
later

WS "Students often complain that they are not treated like adults, not given enough responsibility, and I think if they had a little schedule or time table and they were told well here's your list of objectives, this is what we would like you to learn, this is what is going on, please ask Sister if you can attend these, don't just disappear from the ward or vanish into a haze of smoke, but these things are going on, these things are available to you if you wish to attend them."

Although rather reluctant to admit it, one student felt that in order to get people to study you had to have objectives and tests.

**Student Nurse II**

Q "You said you'd been very busy and got very tired. Do you think, um, if these things (learning materials) were easily available people would be prepared to give up some of their own time to go and look them up or use a tape/slide when they were off duty?"

Student II "Well, um, not being horrible, I know we are student nurses and we are supposed to be studying as well as working but I think that is a bit idealistic to expect everybody to be enthusiastic."

Q "You think so?"

Student II "Yes, because I know, because they think, look well, I don't know well, student nurses think well, good grief, I've got a full day's work here plus work (study) to do, you know a little bit of study BUT if you had objectives, like they must learn it and have a test definitely at the end of it and you will have to learn that, that would be the way to do it, whether they did it in their own time or not."

I described the concept of individualised learning to everyone I interviewed in order to get an idea if they felt it was reasonable of me to expect the students to actually do the work. Apart from a few reservations from one or two of the students everyone agreed that it was reasonable and some were quite adamant that the students needed to work harder.
Clinical Teacher I
Q  "Do you think it is reasonable to expect students and pupils to do this work in their own time?"

CT  "I think it would, because um they are students and I think they are all very aware of the amount of work that is required of them and I think a lot of them just need to be shown the way."

Ward Sister I
Q  "Could we expect the students to do this (distance learning) in their off-duty time?"

WS  "Yes, but I'm appalled how little they do in their off-duty time, they are paid as students, they are training for a profession, for a state registered nurse, yes I think they should, far fewer outings and boyfriends and much more studying at home. I want them to have fun, I want them to enjoy their time, and I don't want them to go off-duty so tired that they have not any energy to have fun but I still think, no, that they need to study."

Second Year Student Nurse
Q  "Do you think it would be unreasonable to expect people to do it (the work) in their own time?"

Student I  "No, not unreasonable, because everyone is different. There are probably some in our set who would definitely do it and a few who definitely wouldn't. But you can't put everybody in the same category and say, no they won't. I mean orthopaedics, either you are going to find it very interesting or you are going to hate it, and if you are interested you will obviously bother."

The challenge for the teacher then is to make it interesting! Not a new concept but one which it did not hurt to be reminded of at the brink of setting up a new project.

I also wanted to get some opinions on the use of different types of media. Although video-tape had been mentioned several times I felt it unlikely that I was going to get sufficient funding for such an enterprise. However
I did want to use tape-slide programmes and programmed texts.

**Clinical Teacher (Night Duty)**

_Q_ "Thinking of this lifting problem alone, do you think there is any way we could better prepare the nurses for this?"

_CT_ "Could they come on the wards and see the patients being lifted during the day perhaps. Make a video of different patients."

_Q_ "Would tape/slides alone help them?"

_CT_ "Oh yes, I would think so, yes. Perhaps even done listening to patients' comments at the time, just to give them some idea how patients react."

**Second Year University Student**

_Q_ "Would you think you could learn any theoretical points on lifting from a slide and tape or would you think it is too removed from the real thing?"

_Student_ "I think it is alright, I could learn more (than a video-tape) from a slide really, if it is shown and re-shown."

One of the students who had used tape/slide programmes before had found them useful. She had some very positive and helpful views about their production and content.

**Second Year Student Nurse**

_Student II_ "It all depends on the content, it's got to be professionally done, no muffled voices, straight to the point, someone with an interesting authoritarian voice, you know what I mean, and good sort of diagrams, I mean like anything if it's properly done it would be much more interesting than something foggy and boring."

Apart from Nurse Tutor 3 very few people had experience of using programmed texts. However he made some useful comments:-

**Nurse Tutor**

_Q_ "What are your feelings about students using programmed texts. How do students like them?"
NT 3 "Yes they are very good, they like to use them if they are properly produced, if they are asking the relevant questions, that they feel that they need to know, they like them, but if they feel, but if they think they are things that they don't need to know then they are critical of them."

The tutor felt that we could give the same programmes to student and pupil nurses but that we should give the pupils more time to assimilate them. This would happen automatically as the pupils' ward allocation was twice as long as the students.

As this project had to be integrated into the total training programme for both student and pupil nurses it was obviously very important that I negotiated fully with the nurse tutor responsible. I needed to ascertain whether he intended making any changes to the week's introductory block and also to get his co-operation concerning the overall nature of the work I was doing.

Nurse Tutor 3

NT 3 "I wouldn't want to change the programme as it is now because I think it is a very, very good introduction to it, and I really don't have any intention, or can't see any modifications which would improve it."

Q "The main reason I ask you is so that I can now build on that, build on what they have at the moment and reinforce some things and introduce new ones."

NT 3 "Yes indeed, I think that is the best way of going about it."

Later on in the interview the nurse tutor made these general overall comments of acceptance regarding his feelings about the introduction of distance/self-directed learning.

NT 3 "We have got to make them (students) work, you see. We should not make things too easy for them. I think sometimes we tend to be a bit too kind to them during their training which does not help them near the end. I think what you are doing is going to help them a great deal and also help the ward staff to know how to monitor them because they will know what we are hoping for."
later

NT 3 "I'm just pleased to know that this idea is getting off the ground, and helping the nurses to learn in a much better more structured manner than they are at the moment, which is very hit and miss, what they learn, what they are expected to learn."

Overall I did not receive any negative comments regarding either the methods or the media which I planned to use. All grades of staff were enthusiastic and said they were keen to help in anyway providing they could find the time.

I received some unexpected, but welcome comments regarding the possible use of the distance/self-directed learning materials by the qualified nursing staff:-

Clinical Teacher I

Q "As things are at the moment do you think the trained staff would welcome the use of learning materials as well?"

CT "I think the trained staff would welcome any sort of teaching, and if you could make it a little bit impersonal, so that they don't feel threatened by somebody asking them direct questions, um when they feel perhaps they ought to know, and they don't know. If they can slip away and look at a video or a tape/slide I think this helps to instil confidence."

Q "So this is probably a very important side issue which will come off this whole project?"

CT "Yes, because I think the trained staff do get into a situation where they do get out of touch and then are actually frightened to pursue knowledge, if you like."

In retrospect I can definitely say that all these discussions I had whilst setting up the project was time well spent and I feel paved the way for the excellent co-operation I have had from all members of staff over the past three years.

By the time I had completed these preliminary interviews I had a clear picture of the current learning environment
for the student and pupil nurses on the orthopaedic wards over a twenty-four hour period. I was able to define some learning objectives and write a ward profile which all the teaching and ward staff accepted. I had heard the views of a wide range of staff concerning ways in which the learning opportunities for student and pupil nurses could be improved. I had gained the co-operation of both the teaching and ward staff relating to the production and introduction of a system of distance/self-directed learning materials for use by all student and pupil nurses who were allocated to these wards.

I could now progress to the next stage of my work which was to monitor ready made learning materials to ascertain if any of them would be useful or appropriate for inclusion in the learning package. This work is described in the following section of the chapter (4.7).

4.7 MONITORING READY MADE MATERIALS

As a nurse tutor I was quite used to finding out information relating to both audio-visual aids and the accompanying technologies. In my first teaching post I had the special responsibility for the collation, maintenance and storage of all the audio-visual aids used in a school of nursing. In my second teaching post I was the nurse tutor responsible for the library. Both of these roles have been good experience for setting up a project of this nature.

I employed the following strategies for monitoring ready-made learning materials which may be suitable for inclusion in the learning package:

a) Collating information about audio-visual aids relating to orthopaedics and orthopaedic nursing e.g. charts, models, tape/slide programmes, videotapes, programmed texts.
b) Getting details about the hardware needed for a project of this nature e.g. slide viewers, cassette players, video systems, types of packaging and display.

c) Hiring audio-visual aids which seemed appropriate and consulting the ward and teaching staff concerning their suitability for inclusion in the learning package with particular reference to their content and presentation.

In order to add to my existing knowledge about the wide range of audio-visual materials and hardware which are available I first organised a visit to the N.H.S. Learning Resources Unit at Sheffield City Polytechnic early in 1981.

This Unit which was established in 1972 aims to provide a focal point for the collection, translation and dissemination of information and advice on aspects of educational technology applied to nurse education (see Chapter 2.3(a)).

The Unit Director Miss Sheila Marson and the Information Officer Mrs. Jean Heath were both extremely helpful and introduced me to the various aspects of the Unit. These include an advice and consultation service, an information retrieval system, production of learning resources (particularly programmed texts and media packages), courses on aspects of training and education technology, a comprehensive library and publication of two bi-monthly newsletters - "Feedback" and "A.V. Feedback".

I found their audio-visual information retrieval system, "A.V. Mine", very useful for obtaining details of audio-visual materials relating to orthopaedics and orthopaedic nursing. I was able to spend some useful time in their library where I got some helpful references and a supply of articles relating to the use of audio-visual aids and other aspects of educational technology in nurse education. I purchased several of their resource lists of audio-visual teaching materials which I have since found very useful particularly for obtaining the names and addresses of distributors. I spent some time studying the programmed texts which the unit
produced and purchased those which were relevant to orthopaedic nursing. I read several of their newsletters and asked to be put on their mailing list. Altogether this was a very useful visit and I gained a lot of new and relevant information.

On my return from Sheffield I wrote to a wide range of distributors of audio-visual aids to get more details of their products (see Appendix 6). I also wrote to firms who produce orthopaedic equipment, implants and theatre instruments (see Appendix 7) as their literature is often very useful for teaching. At the same time I contacted firms and organisations who provide information on hardware and packaging (see Appendix 8). I had a good response to all these enquiries and built up quite an extensive collection of information.

I felt it would be helpful for me to see some of the tape/slide programmes and other media which sounded as if they would be appropriate for the project before I hired them to show to the ward and teaching staff. I knew that the School of Nursing at the Lord Mayor Treloar Hospital at Alton in Hampshire had a good library of audio-visual materials on orthopaedics as they were a training school for the O.N.C. (Orthopaedic Nursing Certificate). I therefore arranged to have a day there previewing some of the programmes stocked in their library. I also had several programmes sent to me free of charge through the Wessex Regional Library and Information Service. These proved to be helpful exercises as I was able to reject several programmes which sounded suitable from the literature but turned out to be inappropriate on viewing.

I eventually selected ten tape/slide programmes which I thought might be appropriate to use for part of the learning package. I was very anxious to get the views of as many of the ward and teaching staff as possible before buying any of the programmes in order that they should accept them
when the project was put into operation. I decided that the best approach would be to give each member of staff an invitation to come and view the programmes. I used the seminar room in the ward areas to carry out the viewing sessions so that staff could leave their duties on the wards with as little disturbance as possible. I booked this room for three specific afternoons and one night and stated the dates and times that the programmes would be available for viewing. I gave out the invitations a few days before the viewing sessions and reminded people verbally on the actual day. On the whole I had a good response and people came in small groups throughout the afternoons and in ones or twos at night. Before each programme was shown I gave out forms asking for written comments particularly relating to the clarity, accuracy and suitability of each programme for use on the local orthopaedic wards. Most people filled these in well and made some interesting and useful comments which helped me to make a decision as to which ones I should purchase.

The following are examples of the types of comments which were made:-

1) **Head Injuries. Graves Medical Audio-Visual Library No. 75-S. 54 Slides. 23 mins. £29.00**

**Clinical Teacher:** "A good commentary, covering all points with accuracy and clarity. There was too much content to be absorbed readily. The headings were useful - but too many to have an impact. Insufficient variety of visual stimulation - needed more slides of an actual patient, etc. Sound - volume varies. I wouldn't particularly recommend this. It was a bit like having a textbook read to me."

**Student Nurse:** "Good. But not enough detail into the neuro. obs. A bit complicated and high-powered at times."

**Ward Sister:** "Basic facts good. One or two words not explained and not clear. Need to realise that head injury treatments vary from hospital to hospital - and therefore what is stated should not be taken as fact i.e. Mannitol - not
Frusemide. Use of steroids for oedema. Drug of choice for analgesia."

Staff Nurse:- "Fairly good, but perhaps too high-powered for student nurses. Need to know basic A & P before seeing the film strip."

Physiotherapist 1:- "More information needed on positioning i.e. what you can and cannot do with their positioning."

Physiotherapist 2:- "Personally I would like to see more actual photographs to illustrate points - fewer diagrams - it would also make it more interesting."

Physiotherapist 3:- "Good complete management picture. Not very practical for nurses or physios. Just provides background information. Didn't mention:-
  - raised intracranial pressure by positioning
  - agitation, coughing, pain, etc.
More and better photographs would have been more interesting than diagrams."

After considering the above comments, having further discussions and watching the programme myself I decided not to buy this programme for the project although it discussed a subject which does need covering.

2) Fractures - Healing of Bone and Principles of Treatment
K. Bucklitch G.M.A.L. No. 80-3. 19 Slides. 10 mins. £15.00

Nurse Tutor:- "Found the commentary interesting but thought the slides were not of a very high standard e.g. the one depicting the patient on Russell traction - not at all clear. I find the idea of having these machines is tremendous but cannot help but wonder if we couldn't make our own slide/cassette programmes."

Staff Nurse 1:- "Excellent tape, no skin traction was shown, but all others used are explained quite well. More time per slide would be beneficial."
Staff Nurse 2:— "Some of the slides could have been clearer, and I felt that at times the commentary was too lengthy. A 10-15 minute programme with important facts being brought out would hopefully be remembered."

Student Nurse (2nd Yr):— "Could have been in more detail about the actual healing process."

Nursing Auxiliary:— "Did not have slides on skeletal traction. Quite clear, could have been longer. Unless you were familiar with human anatomy it was confusing i.e. not knowing what part of the body they were discussing."

After considering these comments I did not buy this programme although the topic is an important one. Eventually I produced a programme myself which included the principles and use of traction.

3) Osteoarthritis - G.M.A.L. No. 78-86
43 Slides. 15 mins.

Ward Sister:— "Factually good. But presented in rather a dull fashion, needs more slides of X-rays and photographs of patients and specific joints. Far too many graphs. Because of slight tendency to go back on itself and be repetitive confusion may arise. A bit gloomy at the end. Operative procedures are more common now and very successful."

S.E.N.:— "On the whole quite good but I think a little too deep for student and pupil nurses. Some of the slides not very clear and rather dated. I don't think the slides would hold a class's attention."

Own Comments:— "Very professional production. Sound and vision most clearly presented. Some points rather technical for nurses but generally would be very useful as background for T/S on nursing care of joint replacements."

I did not purchase this programme but incorporated similar information into one of the programmes I produced myself.
4) Colles Fracture for Nurses - G.M.A.L. No. 77-59
University of Edinburgh. 35 Slides. 24 mins. £22.00

Sister Accident and Emergency Department: Generally liked
the presentation. Clear presentation and illustrated procedures
as carried out here. Felt it would be useful to have a copy.

Ward Sister: Good step by step explanation. Slides
are clear and show photographs of patients and equipment to
be used. X-rays are clear and it is a very good idea to have
the line drawings on view at the same time. Emphasis is
on the patient and not on clinical facts and graphs. Perhaps
the film could be speeded up a little bit as the pace is slow
and may lead to a little attention wandering! Good emphasis
on safety of patient. Perhaps a short resume of anatomy of
wrist would be helpful at the beginning of the film.

Staff Nurse 1: Very clear - but felt it was a little
long-winded in the middle - I think this is very useful
though for nurses working in A & E. It was good to see
the X-rays of the fracture.

S.E.N.: Slide 15 - mentioned one L.A. - should name a
few others that are used. Very good. Clearly and concisely
explained. Ideal for students/pupils.

Clinical Teacher: Very useful, had clear description -
should be of great help to all nursing students. No criticism
as this seemed an ideal tape/slide.

Staff Nurse 2: Suitable for all untrained/trained nurses,
clear and adequate information - perhaps a little more advice
to patient on the care of the P.O.P. (not to get wet etc.).
Casualty students would benefit seeing this before their time
in A & E.

I consequently bought this tape as all the comments were
favourable and the content agreed with local policies.
5) **Menisectomy - Treatment and Nursing Care**  
G.M.A.L. Mr. K. Bucklitch. 21 Slides. 10 mins.  £18.00

**Physiotherapist:** "Misleading in showing different methods of treatment to those used here - some old fashioned ideas about physiotherapy!  
Good description of miniscus tears etc."

**Staff Nurse:** "Good tape, self-explanatory, but more time on each slide would be beneficial."

**Pupil Nurse:** "A well explained tape which is set out well."

**Own Comments:** "Quite good outline of treatment and nursing care. Clear description of problem at the beginning. Local routine differs from this, though this could be explained. Good explanation of examination of foot for circulation."

I decided against purchase as methods of treatment differ from those practised locally.

6) **Aids and Appliances for Rheumatoid Arthritis**  
G.M.A.L. No. 7861. Dr. Nichols. 33 Slides. 18 mins. £22.00

**Occupational Therapist:** "Film does not cover the actual disabilities and problems caused by R.A. so a good knowledge needed to gain full benefit from film. Good coverage of basic aids to daily living but again no explanations for the inexperienced and layout muddled. Perhaps better with problem-solution basis. A good basis to stimulate further thoughts and research."

**Own Comments:** "General introduction, wheelchairs, limitations of function/ability, appliances - jars, taps, kitchen layout, dressing aids, hoists, chairs, toilet/bathing, hobbies.  
Interesting production. Useful for additional package."

I did not purchase this programme as I felt the topic was covered more fully in another production, also by Camera Talks on 'Aids and Adaptations in the Home' which I bought after consulting a group of Occupational Therapists.
7) Rehabilitation of Bilateral Amputee
   Camera Talks Production. 46 Slides. 13 mins.
   Made at Roehampton

Physiotherapist: - "Very useful for student nurses, physio's and O.T.'s. It gives nurses in particular an insight into the problems that the patient has to overcome before he can go home."

Own Comments: - "Shows team approach to severely disabled patient in hospital. Physio, O.T. mainly. Home Assessment. No real mention of nursing staff i.e. encouragement, support, relatives. Good pictures, clear speaking voice."

Although this was a good programme I did not buy it as it did not emphasise the nurse's role enough. However if funds allowed it would be worth getting in the future.

   Mr. K. Bucklitch. 31 Slides. 15 mins. £22.00

Student Nurse 1: - "Good in some areas, but level of explanation varied a great deal, some things needed more explanation."

Pupil Nurse 1: - "I found the film very helpful and interesting to watch."

Pupil Nurse 2: - "Quite clear, but felt more slides to go with this particular cassette would be helpful."

Student Nurse 2: - "Clear to understand. Useful for students and pupils, especially if they don't go to orthopaedics straight from block. Not all diagrams clear e.g. X-ray showing growth of bone."

Physiotherapist: - "Good basic general account."

N. Auxiliary: - "Clear and easily understandable. Voice clear and easy to listen to. Some X-rays a little confusing but if I knew more about them, then maybe I would not have found this."
Nurse Tutor: - "We could have done with more viewing time."

Own Comments: - "Generally good though has certain gaps. Some of headings not left on long enough to digest properly."

I did not buy this tape as the topic is much better explained in "The Principles of Fracture Management".

9) The Principles of Fracture Management. NM 9
Professor J. Stevens, R.V.I. Newcastle.
Oxford Educational Resources. 64 Slides. 20 mins. £75.00

Clinical Teacher: - "Quite a complex programme with a lot of information. It would probably need to be seen several times to gain full benefit. However I think there is certainly a place for it in our collection. Very good and interesting X-rays. The different types of traction illustrated are also useful to have."

Staff Nurse 1: - "Very informative for students."

Staff Nurse 2: - "Soft tissue complications clearly explained and illustrated. I found the slides very good and covered the main aspects of fractures and treatment."

S.E.N.:- "Helpful but shows traction that we do not use."

Student Nurse: - "Very interesting programme. Again runs at the right speed."

Physiotherapist 1: - "Very clear outline of all 8 stages - maybe lacking slightly in No. 8 (rehabilitation). Well explained in each case."

Occupational Therapist: - "Good film. Pity no inclusion of O.T., especially where return to work is concerned and steps leading up to return to work e.g. outpatient O.T. treatment, work assessment in a light/heavy workshop in O.T. department."

Own Comments: - "Generally good. Sticks to principles. Needs following with nursing care. Worth buying. Check with other professionals."

In spite of the high cost, £75.00, I bought this programme due to the above comments and my own opinion.
10) **Intervertebral Disc Lesions. Tier III. NT 105**

Oxford Educational Resources. 66 Slides. 20 mins. £75.00

Clinical Teacher:- "A good tape/slide programme. Clear and concise, the diagrams gave a good explanation, and the conservative and pre-and post-operative treatment fitted in with that which is practised here. Definitely worth having."

S.E.N.:- "Fairly instructive, easy to understand."

Student Nurse 1:- "Fairly interesting programme. Good diagrams. Programme runs at the right speed."

Student Nurse 2:- "Good clear diagrams. Very detailed procedures - good for students."

Own Comments:- "Generally very clear. Good basis. Would need individualised work with patients after this."

I bought this programme, in spite of the high cost, £75.00, as all the comments were very favourable and the programme was aimed specifically at nurses.

So out of a total of ten programmes on approval I only bought three. However I knew that these three would be well received by staff at all levels and that the principles which they demonstrated matched local practice. In many schools of nursing it is not common policy to consult service colleagues before buying audio-visual aids including clinical procedures. This is unfortunate as it can perpetuate the problem of divorcing theory from local practice, a problem which is often mentioned by students.

I used my own judgement to select a series of tape/slide programmes on anatomy and physiology. These were clear, well presented programmes stating facts in a straightforward way. They were all very short and I did not feel they would present any problems holding students' attention. Each programme also had the script written out so that students could take it at a slower pace if they read it instead of listening to the tape. This series of programmes is produced by Camera Talks Ltd:-
Programmed Texts

I found three programmed texts which I thought would be appropriate to issue as part of the learning package:-

1) "Anatomy and Physiology. A Self Instructional Course. Locomotor System and Special Senses" by Ralph Rickards and David P. Chapman.

2) "Hip Joint: A Programmed Text" by I. King.

3) "Healing of Fractures: A Programmed Text" by Hull and Isaacs.

I felt the best way to monitor these texts was by giving them to a representative group of student and pupil nurses for them to work through. I therefore decided to use them as part of the pilot study which will be discussed in section 4.9 of this chapter.

Text Books and Articles

Although there are many straight textbooks written on both orthopaedics and orthopaedic nursing I decided not to issue any of these as part of the learning package. I felt it best to leave it up to the student to select these themselves from the libraries if they felt they needed additional information. However I did feel it would be useful to make copies of relevant, up to date articles from Journals which could be quite easily issued with each package. I therefore carried out several literature searches and chose the following articles:-
American Journal of Nursing

"External Fixation of Complicated Fractures",

Hospital Update

"Fractures" Parts I, II and III. N. Rushton.
Part 2. April 1981 pp 403-411

"Rheumatology Seminar. Surgery in Rheumatic Disease"

The Journal of Bone and Joint Surgery


"Bilateral Charnely Arthroplasty as a single procedure. A report on 400 patients", D. Bracy, B.M. Wroblewski.


The Lancet

"Nylon Straps for Internal Fixation of Bone", A.J. Partridge.
National Association of Theatre Nurses (N.A.T.) News


Nursing Mirror

"Fractures" Staff of Robert Jones and Agnes Hunt Orthopaedic Hospital, Oswestry, Salop. Nursing Mirror Supplement, Dec 7th 1978, pp i-iv.


Nursing Times


In order to monitor how the students used these articles I incorporated some of them into the pilot study which is discussed in section 4.9 of this chapter.
Models and Bones

During the interviews several people had mentioned that it would be a big advantage to have a full-sized skeleton in the ward areas together with more single bones and models. As several Departments in the Hospital and the University had skeletons I was able to assess these first hand and ask for opinions concerning the best one to purchase. The Adam Rouilly range were well recommended, particularly the ones constructed in plastic which were often more durable than real bone. I therefore bought the Adam Rouilly Human Articulated Skeleton (O.T.2) price £350.00.

I knew from my previous teaching experience that the Adam Rouilly models of the cervical spine and lumbar disc lesions were realistically constructed and durable so I did not feel it necessary to seek other people's opinions before buying them. The Department of Human Biology and Health at the University of Surrey had a large supply of human bones which they were prepared to lend out on long term loan to the ward areas in the hospital. The Nurse Education Centre had recently bought some new skeletons so we were able to dismantle the old ones to use as individual bones for teaching and learning in the clinical areas.

Wall Charts

I felt it would be helpful to the students to have some anatomical charts to refer to while they handled the skeleton. I had been impressed by the clarity and accuracy of the Peter Bachin range of charts at several exhibitions. When visiting the Gerrard Biological Centre in East Preston, Sussex to look at their range of audio-visual aids I found that they were the distributors. As I had been able to arrange several exhibitions for the firm at local schools of nursing they kindly gave me two of the charts which were relevant to the project:-

No. 8943 The Skeletal System
No. 8946 The Muscular System
Videotapes

I did find a few videotapes which might have been suitable to incorporate into a learning package on orthopaedic nursing. However as time went on and I thought more about how the package should be assembled I realised I should not be able to use videotape as the equipment was too expensive. Also there was not a large enough range of ready-made materials available.

Literature and Samples from Firms Producing Orthopaedic Equipment and Implants

I received a lot of useful, well illustrated literature from these firms which I was able to display. Several firms asked their local representatives to contact me and many of them were generous about giving me examples of their products so that I could put them on permanent display. I did manage to get some examples of these implants from the local operating theatres. However they are very expensive and I had to rely on those which had been removed from patients who were having re-construction surgery or having examples from the extreme size of a range which was rarely used. It took me 6-8 months, and a lot of persuasion, to obtain examples of all the various plates, screws, nails, pins and prothesis which are commonly used on the wards.

Hardware and Packaging

Having decided not to use videotape the main items of hardware which I needed were cassette players and slide viewers. After a lot of consideration and debate I came to the conclusion that in order that students could make the best use of the learning package each one should be issued with their own equipment which they could take home. Bearing this in mind I looked for equipment which was both sturdy and economical. It was quite easy to monitor this as a cross section of makes were available in local stores. I chose the Agfascope 200 handviewer from Argos. This is a compact machine which will take a stack of 15-20 slides
all at once. Argos undercut the price at other stores by between £1.00 and £2.00. Out of the large range of cassette recorders which are available I chose the Bush 3150 for its light weight, durability and reasonable cost. I obtained these at Boots for £18.95p each.

In order that tape/slide programmes could be shown at any time in the ward areas a Caramate machine was to be transferred from the School of Nursing to the Instructors' Room between the two orthopaedic wards.

I got a lot of useful information on packaging slides and cassettes on a visit to the Queen Elizabeth School of Nursing in Birmingham when I went to look at their audiovisual aid department. They used media packs produced by Dunn & Wilson Ltd. of Falkirk, Scotland for storing slides and cassettes. These media packs were made up in book form to hold one or two cassettes and a set of slides. They were strong, light in weight and attractive coming in a wide range of colours and I felt they would be ideal for the type of learning package I was producing. I therefore ordered sufficient to hold all the tape/slide programmes which we produced.

To summarise. This process of monitoring ready-made materials for incorporating into a package of learning materials for use on the orthopaedic wards continued for the best part of a year.

In order to make an informed choice of materials I visited the following institutions and departments in various parts of the country:-

The N.H.S. Learning Resources Unit at Sheffield City Polytechnic. The School of Nursing, Lord Mayor Treloar Hospital, Alton, Hampshire. The School of Nursing, Queen Elizabeth Hospital, Birmingham. Gerrard Biological Centre, East Preston, West Sussex.
Various departments in the University of Surrey and the Local Hospitals

Local stores stocking audio and photographic equipment.

I obtained information on software and hardware from a wide range of firms who produce audio-visual aid materials, orthopaedic implants and instruments and educational hardware.

After hiring twelve tape/slide programmes on approval I sought the written opinions of the teaching and clinical staff who work on the orthopaedic ward as to their suitability for local use in a learning package. Five of the programmes were considered suitable.

I carried out a literature search of current journals and obtained twenty relevant articles on orthopaedics and orthopaedic nursing. The evaluation of these articles by the students is described in the pilot study in section 4.9 of this chapter.

I searched local libraries and found three programmed texts on the anatomy and physiology of the locomotor system which would also be used in the pilot study.

After assessing the construction, durability and presentation of various models and charts relating to the locomotor system I chose several which seemed eminently suitable.

I arranged to meet several representatives from firms who produced orthopaedic implants and instruments and was given several samples and a lot of literature which would prove useful for display purposes. I liaised with the operating theatres and asked them to save me any samples of such materials which they were unlikely to use which could also be used for display purposes.

I chose durable, lightweight hand viewers and cassette players at the most economical prices from local stores. I arranged for a Caramet machine to be transferred from the School of Nursing to the clinical areas.
I decided on a packaging system for the tapes and slides after seeing one which impressed me at the School of Nursing at the Queen Elizabeth Hospital, Birmingham.

However, long before this monitoring process was completed it became obvious that in order to produce a learning package which was relevant and appropriate for local use it would be necessary to produce a lot of the materials myself.

As the production of these materials proved to be a major part of the whole project a separate section will be devoted to it. This process is described in chapter five.

4.8 BUDGETTING. FINANCES AND RESOURCES. PURCHASING READY-MADE MATERIALS

Before I was asked to carry out this project an application for a research grant had been submitted to the Department of Health and Social Services. The total support requested was £41,584. This amount was to cover the salaries of a full time Research Assistant and a half time Secretary over a three year period together with all the expenses which would be incurred and equipment which would be needed to carry out the work (see Appendix 9 for breakdown of figures).

Despite the fact that this request was turned down by the D.H.S.S. it was felt that research monies would be available within or could be obtained through the Department of Human Biology and Health at the University of Surrey. I therefore agreed to undertake the work on a part-time basis, the remainder of my time being devoted to teaching the student nurses on the four-year BSc in Nursing Studies Course. I was seconded full-time from the Health Service to the University of Surrey in February 1981. My salary was paid 3/5th by the University and 2/5th by the Regional Nurse Training Committee. On average a third of my time was spent on work connected with student teaching and learning and two
thirds on the research project. However there were several periods when the proportion spent on teaching was considerably higher due to staff shortages and sickness, meaning that the research work did not progress as quickly as had been originally planned.

During 1981 the University Grants Committee was making cutbacks in higher education. There was a great deal of unrest and insecurity in the Department of Human Biology and Health as it was highly likely that this Department would be run down and that the course in Nursing Studies would be transferred to another Department or just possibly it could be discontinued altogether. Understandably this was not a good time to negotiate for research monies within the University. However as I had already started working on the project finances had to be obtained and therefore a variety of sources were explored.

 Eventually a lump sum of £900.00 was granted from the Teaching and Learning Methods Committee of the University of Surrey and £250.00 from the Regional Nurse Training Committee. This meant that the purchasing and production of materials for the learning package could go ahead. A breakdown of how these monies were spent is given in the appendix (10).

It can be seen that the largest sum was paid to the Audio-Visual Aids Department within the University for the taking and developing of slides and production of tapes. The fact that the A.V.A. Department charged only for materials and not for the labour was a very great saving.

The League of Friends of the Hospitals involved donated £357.00 specifically for the purchase of a skeleton. This was a very welcome gift as it was an expensive item which was basic to the whole project.

The production and purchase of materials continued during 1982 and into 1983 by which time the grants from the Teaching and Learning Committee and the Regional Nurse Training Committee were almost exhausted. By now it had been decided that the Department of Human Biology and Health should be run down and
would close when the students on the 1982-85 Human Biology Degree completed their final year. The Degree in Nursing Studies was transferred to the Department of Biochemistry and the Health Visitors Course to the Department of Educational Studies in October 1984. I was also transferred to the Department of Educational Studies in January 1984.

Once the production of the learning materials was completed a considerable amount of funds were needed for them to be duplicated in order to be able to issue a set to each student. Funds were also needed to buy tape recorders, slide viewers and packaging materials. It was considered practical that the hardware should belong to the Nurse Education Centre as it would be used by a higher proportion of National Health Service Learners than those who were attached to the University. I therefore approached the Director of Nurse Education to ask if it would be possible to use some of the equipment monies for this purpose. As it was the end of the financial year when this request was made the Director was able to make arrangements for £550.00 of surplus monies from the textbook and computer maintenance funds to be made available for the project.

During the summer of 1983 the administration in Human Biology and Health had changed considerably and as the Department was being gradually run down the demand on general research funds was slightly reduced. It was therefore possible to pay for the numbering and duplication of slides with monies from this general research fund. This was a great relief as the constant negotiation for funding both for equipment and latterly for my salary had quite a detrimental effect on the progress of the whole project. Long-term planning with indeterminate funding was particularly difficult and the time spent in obtaining this funding was quite considerable.

Over the three years that the learning package was being planned and produced funding was obtained from five different sources as follows:-
The Hospital League of Friends £357.00
The Teaching and Learning Methods Committee,
University of Surrey £900.00
South West Thames Regional Nurse Training Committee £254.34
The Nurse Education Centre £550.00
General Funds, Department of Human Biology and Health £822.00

£2,883.34

Certain learning aids were borrowed on long term loan from the Nurse Education Centre and The Department of Human Biology and Health (see Appendix 11). The approximate cost of these borrowed materials was £830.00 making an overall total cost for equipment of £3,713.00.

It is difficult to estimate the cost of the practical assistance I had from other staff during the planning and production stage of the project. As no specific secretarial staff were allocated to the project all the typing was done in the general typing pool in Human Biology and Health. Early in 1983 a clinical teacher, who was a specialist in orthopaedic nursing, was paid by the University on an hourly basis to help with the production of the tape/slide programmes. This amounted to a total of £500.00. Over a six week period during the summer of 1983 a part-time research officer helped to organise and label the completed packages in preparation for the exhibition and launching of the main project. An approximate breakdown of the cost of salaries for all these staff are given in Table 4.11(b). Details are also given of my own salary. As I was seconded from the Health Service my salary was the equivalent of a nurse tutor on top grade. In order to ascertain the cost of the whole research project including salaries I have considered that on average I spent 2/3 of my time on research and 1/3 on teaching.
Table 4.11 b

Overall Costing of Research Project

Salaries
Research Officer x 5 years part-time £29,763.00
Secretarial £1,000.00 approx.
Clinical Teacher 500.00 approx.
Research Officer £400.00 approx.
Equipment and Production Costs £3,713.00

Total £35,376.00

This total cost compares very favourably with the original request made for funding to the D.H.S.S. This is particularly pleasing as this costing was based on salary scales in 1979 which were considerably lower than they are today.

4.9 THE PILOT STUDY JULY - OCTOBER 1982

During the time that local learning materials were being produced (see Chapter Five) a small pilot study was carried out using ready made self-instructional courses and programmed texts.

The aim of this pilot study was sixfold:-

1) To look at the practicalities of issuing self-directed learning materials to students and pupil nurses whilst they are allocated to the clinical areas.

2) To look at the amount of time that student and pupil nurses spend on their private study when they are away from the ward areas in order to gauge how much it would be reasonable to expect them to do during the main study.

3) To ascertain what new learning experiences each student and pupil nurse considered they had whilst they were allocated to the ward in order to see if this fell into any sort of pattern on which to base the learning package.
4) To evaluate three commercially produced programmed texts to ascertain their relevance for use by learner nurses on an orthopaedic ward.

Titles of the texts:

a) "Hip Joint. A programmed text". I. King.

b) "Healing of Fractures. A programmed text".
   Hull and Isaacs.

c) "Anatomy and Physiology. A self instructional course.

5) To monitor how pupil nurses, R.G.N. students and BSc R.G.N. students react to using the same learning materials.

6) To monitor the research tools and assess how appropriate they would be for the main study.

Six learner nurses took part in the pilot study. These comprised two pupil nurses on night duty, two R.G.N. and two undergraduate students on day duty. All these nurses were asked to keep self report diaries of their learning experiences both on and off duty (see Appendix 12). They also completed evaluation sheets on each of the programmed texts (see Appendix 13). I visited each of them at least once a week in order to ascertain their progress and discuss any difficulties or problems. I kept a written record of all these visits which included comments made by both the learners and the qualified staff.

The first two students on the pilot study started at the beginning of August 1982. I had been to talk to their whole group about the project while they were in the School of Nursing at the beginning of their Trauma Unit. By coincidence this group were involved with the D.H.S.S. research project on "Smoking and Stress in Nurses" also being undertaken by the Department of Human Biology and Health.

I asked for two volunteers who would be prepared to take part in the pilot study. One student volunteered immediately and seemed very willing and eager to take part (No.2). It was
more difficult to get the second volunteer although another
student (No.1) did say "I will try" rather unwillingly,
"you see we are doing the other research". In view of this
slight reticence from the students I decided that when I needed
the next two volunteers it would be better to wait until the
group had been allocated to the ward before requesting their
assistance.

To give an overall picture of the ways in which each
learner reacted during the pilot study I have compiled individual
profiles of each one based on the various research tools
which were used.

Profiles of Learner Nurses Involved in the Pilot Study

1) R.G.N. Students on Day Duty

Student Nurse One

I visited this student five times during the month she
was allocated to the ward (August 3rd, 6th, 11th, 17th and 27th
1982). She had never worked on an orthopaedic ward before
so this was altogether a new experience for her. On my first
visit she appeared much more willing to participate in the
pilot study than when I had seen her in the School of Nursing.
She had her diary in her pocket and she kept this well throughout
her stay on the ward making clear, concise entries.

At the end of the first week she was not very happy on
the ward. She said that the trained staff clung together and
that she felt "left out". Generally she never felt very sure
what she was meant to do. I had only issued her with one
programmed text for her first week. However she had not done
any of the work as she wanted to do, her drug assessment while
she was on the ward and had therefore concentrated her energies
in that direction.

Overall she remained rather unhappy for most of her stay
on the ward. At one point she was not well and had a day off
sick. During her second week she took another of the programmed
texts although she had not done any of the other work. "I will
take it in case I don't see you."

This student felt that there was a great need for more clinical teachers on the ward "They (Clinical Teachers) were a great help at "X" Hospital". She had been given a few demonstrations by the trained staff on orthopaedic procedures which she had not seen before but nobody had given her any explanations as to the rationale behind them.

By my fourth visit this student had done some work on the locomotor system. She said she did not think students should have to work at all on their days off but could perhaps do about one hour's study a day in their free time on the days they were working. However she felt that they would do more than that if they were really interested. As she felt that she hadn't learnt much on the ward so far I arranged for her to spend a whole afternoon with the physiotherapist.

Although Student One had spent about three hours of her own time studying in preparation for her drug assessment towards the end of her allocation she decided not to take it at this stage so stopped studying this subject.

By the fourth week she had completed the self-instructional course on anatomy and physiology and said "I think it would be very useful to study the appropriate anatomy and physiology like this in all areas". We had a discussion on the possibility of student status for learners. She did not think that student nurses should be supernumary or even free from their duties in the afternoons, "Oh, it would be too much school".

The student felt that she got a good idea of the patients' social and psychological problems from listening to the ward report. Although she had seen the social worker "floating about", she had not spoken to her at all.

By the end of her month's orthopaedic allocation this student had completed the following self-directed study:-
1) "Self-Instructional Course on the Locomotor System"
   All four sections completed.

   She enjoyed using this book which she felt was at the right level for her and that it contained good basic anatomy which was relevant to the ward.

   Overall she thought that it was good groundwork and that all students should be issued with a copy when they were nursing orthopaedic patients.

   **Total Time Spent 2 Hours**

2) Programmed Text "The Healing of Fractures"
   Although Student One only completed a few chapters of this text she enjoyed using it and found it very straightforward and easy to understand. She felt it was a good foundation for the wards and that it would be helpful to all students.

   Pre-Test 11. Post-Test 17. **Total Time Spent \( \frac{3}{4} \) Hour**

3) Articles on "Partridge Bands"
   Student One was interested in this topic as a patient on the ward had Partridge Bands inserted. She read this article in her duty time.

   **Total Time Spent \( \frac{1}{2} \) Hour**

   This student spent 3 Hours studying drugs when she was off-duty making the total amount of study in her own time in a month 5\( \frac{1}{2} \) Hrs.

   **Average 1 Hr 15 mins per week**

   Student One made the following entries in her self-report diary relating to new learning experiences during her orthopaedic allocation. They are given under the headings used in the diary:

1) **Demonstration or supervision of clinical practice which you have not seen before:**
   - Removal of redivac drain: 15 minutes
   - Observed removal of sutures and clips (S.E.N.). No explanations given: 30 "
   - Application of skin traction. Care of skeletal traction (S.E.N.): 20 "
   - Observed removal of Denham Pin (S.E.N.): 20 "

   **Total** 1 Hour 25 minutes
2) **Discussions (with colleagues, trained staff, doctors, physiotherapists, occupational therapists, social workers, pharmacists, dieticians, patients)**

<table>
<thead>
<tr>
<th>Activity</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teaching Report (S.R.N.)</td>
<td>30 minutes</td>
</tr>
<tr>
<td>Pre-operative Equipment (S.E.N.)</td>
<td>5 &quot;</td>
</tr>
<tr>
<td>X-Rays</td>
<td>10 &quot;</td>
</tr>
<tr>
<td>Clinical Teacher</td>
<td>30 &quot;</td>
</tr>
<tr>
<td>Drugs</td>
<td>5 &quot;</td>
</tr>
<tr>
<td>X-Rays (S.E.N.)</td>
<td></td>
</tr>
<tr>
<td>Total Hip Replacements and Fractures (S.E.N.)</td>
<td>40 &quot;</td>
</tr>
<tr>
<td>Explanation of afternoon's work</td>
<td>120 &quot;</td>
</tr>
<tr>
<td>(Physiotherapist)</td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>4 Hours 5 mins</strong></td>
</tr>
</tbody>
</table>

3) **Lectures and Seminars**

None.

4) **Reading (Please give details of books or articles)**

<table>
<thead>
<tr>
<th>Book</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self Instructions on Locomotor System</td>
<td>120 minutes</td>
</tr>
<tr>
<td>Patients notes</td>
<td>30 &quot;</td>
</tr>
<tr>
<td>Article on Partridge Bands in Ward Office</td>
<td>30 &quot;</td>
</tr>
<tr>
<td>Programmed Text &quot;Healing of Fractures&quot;</td>
<td>30 &quot;</td>
</tr>
<tr>
<td>Reading about Drugs</td>
<td>180 &quot;</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>5 Hours 30 mins</strong></td>
</tr>
</tbody>
</table>

* Work in off-duty time

6 Hours

5) **Writing (Essays, case studies, programmed texts)**

<table>
<thead>
<tr>
<th>Activity</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Taking notes for case study (Onward)</td>
<td>90 minutes</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>1 Hour 30 mins</strong></td>
</tr>
</tbody>
</table>

**GRAND TOTAL = 13 Hours** New Learning Experiences in One Month

**Student Nurse Two**

I visited this student seven times during the month that she was allocated to the ward (August 3rd, 6th, 9th, 11th, 17th, 20th, 27th 1982). On my first visit she could only spare five minutes as the ward was very busy. She was still very keen to take part in the pilot study and had brought her diary and self-instructional book on anatomy and physiology to work. By my second visit she had finished this book and had done all the self tests. "I like this type of work with self tests, it really
makes you learn". On this visit I gave the student the programmed text on the healing of fractures.

Student two remained keen throughout her allocation and seemed very happy on the ward. She did a lot of study on her long weekend off and by my fourth visit had finished the programme on the healing of fractures. I gave her the final programme on the hip joint together with the relevant bones.

During her third week I showed a small group of students, including student two, some of the slides which had been taken on the ward to produce the tape/slide programmes on lifting and moving patients. The students wished they could have seen these illustrations during their first week on the ward when they would have been more relevant and helpful. Nevertheless it did help to confirm that the pictures we had taken were appropriate and should prove useful.

On my final visit there was time to have quite a long discussion with this student. This was very helpful as she had worked hard during her month's allocation and had completed all the programmed texts. The following are some comments which she made which are particularly relevant:--

Student One (Pilot Study)

"I prefer to have more work to do as we did this time. If you only have a little you lose motivation and find work more difficult to do. I did some work most days."

"People say we have poor teaching and bad results, but really it is up to the student. I have learned more during this month than ever before."

"I feel it would be reasonable of tutors to expect students to do two hours study per week in their own time."

Apart from wanting more instruction at the beginning of her allocation on lifting and moving patients this student said she had not encountered any problems while she was on the ward. In fact she was very appreciative of the extra learning opportunities she had been given.
By the end of her month's allocation she had completed the following self-directed study:-

1) "Self-Instructional Course on the Locomotor System"

Had completed three sections. She enjoyed using this book because:- "you could test yourself to see how much you know, before and after studying. Also it was very clear." She felt the book was about the right level and that it would be useful for all students who were allocated to the ward because:-

"It lets them discover what they know and what they have to learn. Also it gives them incentive to revise. It would help correspond the theory with the practical work."

Total Time Spent 1 Hour 30 mins

2) "Programmed Text. The Healing of Fractures"

Student two also enjoyed using this programme because it was:- "Very clear, simple diagrams and pictures - good questions and answers. Repeated statements - written different ways helped it to sink in". She felt it would be helpful if it was issued to all students who went to the ward because:- "It would help us to know and understand what was happening on the ward and prepare us for exams". Overall the student commented "I learnt a lot and it is much clearer in my mind now".

Pre-Test Score 10/20          Post-Test Score 19/20

Time Spent          Copying Diagram and Making Notes          1½ Hours
Tests

Tests

Total          2 Hours

3) "Hip Joint. A programmed text"

Student two enjoyed using this programme for similar reasons and found it, "Very clear, diagrams and statements - easy to understand and follow". She felt it would be helpful for all students on the ward because:- "Relating it to the ward will be easier".

Time Spent          1 Hour 30 mins

As well as the time spent completing these three programmes student two took two and a half hours of her free time copying
out notes for a care plan and completing a patient care study.

This made the total amount of study in her own time:-

6 Hours 30 mins
1 Hour 37 mins per week on average

Student two made the following entries in her diary relating to new learning experiences:-

1) **Demonstration or supervision of clinical practice which you have not seen before**
   - Lifting patients on traction and in plaster (S.R.N.)  15 minutes
   - Care of pin sites (Patient)  10 "
   - Changing Redivac Drains  10 "
   - Exercises (Physiotherapist)  1 Hour 30 minutes
   - Wound Dressing (Clinical Teacher)  30 minutes

   **Total**  2 Hours 5 mins

2) **Discussions**
   - Teaching Report (S.R.N.)  30 minutes
   - Discussion relating to theoretical work (Tutor)  30 "
   - Discussion about patients (Clinical Teacher)  30 "
   - Discussion following Part A. Assessment (Clinical Teacher)  30 "
   - Discussion on patient care study (Patient)  30 "

   **Total**  2 Hours 30 mins

3) **Lectures or Seminars**
   - Total Hip replacements. Nursing Care (Ward Sister)  30 minutes

   **Total**  30 minutes

4) **Reading**
   - Programmed Text Locomotor System  * 1 Hour 30 mins
   - " Healing of Fractures  * 1 "
   - " Hip Joint  * 1 "  30 mins

   **Total**  * 4 Hours

5) **Writing**
   - Copied notes for care plan  * 30 mins
   - Wrote up Case Study  * 2 Hours

   **Total**  2 Hours 30 mins

* Work completed in off-duty time

**GRAND TOTAL** = 11 Hours 35 minutes new learning experiences in one month
2) **Pupil Nurses on Night Duty**

The two pupil nurses who were involved in the pilot study started on the ward two weeks after the students. I visited both of them on the ward about 23.00 Hours on their second night on duty. I explained about the pilot study and asked if they were prepared to take part. They were both keen and eager to co-operate but were both very tired as they had only slept for a few hours that day. At the end of this ward allocation they were due to take their Hospital Final Examination which they were naturally rather worried about.

I issued each pupil with a self report diary, a self-instructional course on anatomy and physiology of the locomotor system, a collection of bones and a ward profile. I showed them a shelf in the Instructors' room where they could put the books and bones and suggested they should use the skeleton which was kept in this room for reference.

The trained staff on both wards seemed very pleased to see me and were most helpful. "Are you going to teach the nurses, we haven't got time", was a comment made by one of the S.E.N.'s. This statement correlates with the evidence I obtained from the unstructured interview which I carried out in order to formulate the learning objectives.

**Pupil Nurse Three**

I continued to visit the pupils on night duty between 10.30pm and 12 midnight as by then there was often a slight lull in the ward work. I visited Pupil three 6 times altogether over a two month period (August 8th, 18th, 27th, September 6th, 15th, 17th 1982). By my second visit Pupil Nurse three had settled down to night work and was sleeping better during the daytime. She was very chatty and enthusiastic about her work. She had completed several sections of the anatomy and physiology book and was keen to have the programmed text on the healing of fractures.

Towards the middle of her allocation this pupil slowed down a little with her study. "I can't get on" with the anatomy and physiology book and "I have not done so much this
week". I discussed her problems and made some suggestions about the best ways of approaching the work. The pupil was very receptive. By my third visit she was beginning to worry a lot more about her hospital exam and was planning to start a revision programme. Again I gave her some suggestions as to how she could organise her work.

My advice appeared to reap rewards as towards the end of her allocation the pupil's work output had increased considerably. By mid September she had finished her case study, completed the programmed text on fractures and taken books home to work on her revision programme:

"My parents were amazed and wondered what had happened - it has inspired me having you come to see us every week."

I showed both the pupils and some of the trained staff some of the slides we had taken of patient care during the daytime. They asked a lot of questions and said they found them very useful. This was encouraging as these slides were to be used for one of the tape/slide programmes in the learning package.

On my final visit pupil nurse three had filled in her diary quite carefully. She said she had never worked so hard during a two month period on a ward and felt it was due to being visited and encouraged and not only because she was so near to her final examination.

However on analysing the entries in her diary I found that the total time she had spent on study in her off-duty time in an eight week allocation was only 5 hours 50 minutes which makes an average of 45 minutes per week.

Nevertheless this pupil did manage to do 6 hours 55 minutes study during meal breaks and quiet periods when she was at work and did finish all the work I gave her.

Unfortunately she did not fill in any of the evaluation sheets for the various learning materials although her verbal comments were favourable.

Pupil three made the following entries in her diary relating
to new learning experiences during her two month orthopaedic allocation:

1) **Demonstration or Supervision of Clinical Practice**

<table>
<thead>
<tr>
<th>Activity</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Injections (S.R.N.)</td>
<td>10 minutes</td>
</tr>
<tr>
<td>Application of skin traction</td>
<td>30 minutes</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>40 minutes</strong></td>
</tr>
</tbody>
</table>

2) **Discussions**

<table>
<thead>
<tr>
<th>Topic</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fractures and their treatment, 3rd year student</td>
<td>45 minutes</td>
</tr>
<tr>
<td>X-rays</td>
<td>30 minutes</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>1 Hour 40 minutes</strong></td>
</tr>
</tbody>
</table>

3) **Lectures and Seminars**

<table>
<thead>
<tr>
<th>Topic</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skeleton and fractures (Ward Sister)</td>
<td>1 Hour 30 minutes</td>
</tr>
<tr>
<td>Chest Injuries (Ward Sister)</td>
<td>45 minutes</td>
</tr>
<tr>
<td>Slides and explanation</td>
<td></td>
</tr>
<tr>
<td>Total Hip Replacements</td>
<td></td>
</tr>
<tr>
<td>Patient care (Tutor)</td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>2 Hours 20 minutes</strong></td>
</tr>
</tbody>
</table>

4) **Reading**

<table>
<thead>
<tr>
<th>Topic</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ward Profile</td>
<td>20 minutes</td>
</tr>
<tr>
<td>Locomotor System</td>
<td></td>
</tr>
<tr>
<td>Locomotor System - looked at bones</td>
<td>30 minutes</td>
</tr>
<tr>
<td>At home. Various Books &amp; Articles*</td>
<td>1 Hour</td>
</tr>
<tr>
<td>Skeletal System</td>
<td>1 Hour</td>
</tr>
<tr>
<td>Programmed Test - Healing of Fractures, with test</td>
<td>1 Hour 30 minutes</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>4 Hours 20 minutes</strong></td>
</tr>
</tbody>
</table>

5) **Writing**

<table>
<thead>
<tr>
<th>Topic</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Programmed Text on Fractures</td>
<td>1 Hour</td>
</tr>
<tr>
<td>Notes for Case Study</td>
<td>50 minutes</td>
</tr>
<tr>
<td>Programmed Text - Locomotor System + Test</td>
<td>20 minutes</td>
</tr>
<tr>
<td>Case Study - start</td>
<td>1 Hour 15 minutes</td>
</tr>
<tr>
<td>Case Study - complete</td>
<td>1 Hour 30 minutes</td>
</tr>
<tr>
<td>S.E.N. Revision Tests</td>
<td>1 Hour 30 minutes</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>8 Hours 25 minutes</strong></td>
</tr>
</tbody>
</table>

* work completed in off-duty time. 4 Hours 50 minutes * 3 Hours 35 minutes

**Grand Total = 17.25 Hours new learning experiences in 2 months.**
Pupil Nurse Four

I visited pupil nurse four six times in her two month allocation (August 8th, 18th, 27th, September 6th, 15th, 22nd 1982). She found it very hard to adapt to working at night and took several weeks to get used to the different routine of sleeping during the day. However she studied hard throughout the whole of her allocation and kept her self report diary very well always using the correct code.

Whenever I visited pupil nurse four she would always ask a lot of questions both about her theoretical study and the patients on the ward. She started revising for her final examination early in her allocation and studied consistently throughout the two months. As the ward was nearly always busy it was very difficult for this pupil to do much study during the night.

By my fourth visit pupil nurse four was much more relaxed and getting used to night work. She was working steadily through all the self-instructional booklets. She enjoyed the format and had worked through some of them twice. She also worked hard at the case study which she had to do for the School of Nursing. She said that she always studied hard and that her current performance was nothing unusual. She liked seeing a Tutor frequently and felt that a visit about once a week was ideal.

When discussing her diary entries on my final visit this pupil said she was surprised how much study she had done and said she had enjoyed the whole exercise.

Overall pupil nurse four did 20 hours 10 minutes study in her own time while she was on night duty making an average of 2 hours 31 minutes per week. In spite of commenting that she found it difficult she did manage to do 4 hours 40 minutes study while she was on duty.

Her comments on the use of the individualised learning booklets were as follows:-
1) "Anatomy and Physiology. A Self-Instructional Course. The Locomotor System"

Studied the first three sections of the book and completed the self tests. She enjoyed using the book and liked the good illustrations which she felt made learning easier. She found the level of the book acceptable. She felt all students coming to the ward would find the book helpful:

"The book is easy to follow and one can almost identify what is happening to the patients as they progress."

She found it hard to do any of this book while at work:-

"One cannot get stuck-in to such a book whilst at work as interruptions occur all too often, leaving the nurse a little restless with her studies."

2) "Healing of Fractures. A programmed text"

Pupil nurse four thought she took about 1 hour 10 minutes to complete this text:

"Sorry, I forgot to time myself but it seemed like ages!"

She enjoyed using the text as -

"It is repetitive which makes it harder for one to forget the healing process of a broken bone. Easy reading. Enjoyable programme."

She felt it would be useful for all students and pupils who were allocated to the ward:-

"It is a book which can be picked up and read any time if one has a few moments to spare."

As an overall comment this pupil said:-

"We need more books like this one please."

Pre-Test 11/20. Post-Test 19/20

3) "Hip Joint. A programmed text"

The pupil spent 45 minutes working on this programme.

She enjoyed using it because it was -

"An easy book to follow and well illustrated."

She felt all pupils would find it helpful:

"It is a good way of learning - easy understanding."
However:

"I would have liked more time doing this programme – rushed it a bit, so did not take in as much as I should have – more concerned and involved with revision for exams due soon and completing inter-block work."

Pupil nurse four made the following entries in her diary relating to her total learning experiences during her two months allocation:

1) **Demonstration or supervision of clinical practice**

<table>
<thead>
<tr>
<th>Activity</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Demonstration - changing giving set</td>
<td>10 min</td>
</tr>
<tr>
<td>Drug Round (Tutor)</td>
<td>40 min</td>
</tr>
<tr>
<td>Application of skin traction (supervised S.R.N.)</td>
<td>30 min</td>
</tr>
</tbody>
</table>

**Total** 1 Hour 20 minutes

2) **Discussions**

<table>
<thead>
<tr>
<th>Topic</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ward routine (S.R.N.)</td>
<td>20 min</td>
</tr>
<tr>
<td>Traction - theory (Tutor)</td>
<td>30 min</td>
</tr>
<tr>
<td>Patients’ X-rays (S.R.N.)</td>
<td>20 min</td>
</tr>
<tr>
<td>Revision for exam (Tutor)</td>
<td>30 min</td>
</tr>
</tbody>
</table>

**Total** 1 Hour 40 minutes

3) **Lectures or Seminars**

<table>
<thead>
<tr>
<th>Topic</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Hip Replacements - Nursing Care &amp; slides (Tutor)</td>
<td>45 min</td>
</tr>
<tr>
<td>Fractured Neck of Femur - Nursing Care &amp; slides (Tutor)</td>
<td>30 min</td>
</tr>
</tbody>
</table>

**Total** 1 Hour 15 minutes

4) **Reading**

<table>
<thead>
<tr>
<th>Topic</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ward Profile</td>
<td>10 min</td>
</tr>
<tr>
<td>Text Book on Ward</td>
<td>20 min</td>
</tr>
<tr>
<td>Patients’ Notes</td>
<td>20 min</td>
</tr>
<tr>
<td>Bone Growth, Fractures *</td>
<td>30 min</td>
</tr>
<tr>
<td>Revision for exam *</td>
<td>30 min</td>
</tr>
<tr>
<td>Revision for exam *</td>
<td></td>
</tr>
</tbody>
</table>

**Total** 6 Hours 30 minutes

* 5 Hours 10 minutes

Ward 1 Hour 20 minutes

* Work completed in off-duty time
5) Writing

Self-Instructional Course - Locomotor System

<table>
<thead>
<tr>
<th>Case Study *</th>
<th>Notes, plaster of Paris, skeletal traction</th>
<th>Interblock work - arthritis *</th>
<th>Healing of Fractures. Programmed text</th>
<th>Revision Drugs *</th>
<th>Hip Joint - Programmed text</th>
<th>Objective Tests - Revision *</th>
</tr>
</thead>
<tbody>
<tr>
<td>8 Hours 25 &quot;</td>
<td>10 &quot;</td>
<td>2 Hours</td>
<td>1 Hour 20 &quot;</td>
<td>1 Hour 10 &quot;</td>
<td>45 &quot;</td>
<td>3 Hours 15 &quot;</td>
</tr>
</tbody>
</table>

Total 19 Hours 35 minutes

* 15 Hours 00 minutes

Ward 4 Hours 35 minutes

6) Any other experience from which you gained new knowledge, skills or attitudes

Admitting a patient at 3am 25 minutes

Total 25 minutes

Overall this pupil had a total of 30 Hours 45 minutes new learning experiences in two months allocation, only 10 of which were while she was on duty.

3) Undergraduate Student Nurses on Day Duty

As the University students were on vacation when I started the pilot study none were available until September 1982. The first two who were allocated to the ward in the Autumn Term were anxious to help and showed an interest in the whole project. As it was also my responsibility to teach these students during their ward allocation and to help them with their clinical work and practical assessments I had more contact with them than the other four learners on the pilot study.

Both these students agreed to keep a self report diary and one commented "I will probably do more work if I have to keep a record of it."

During the first week of their allocation both students were issued with:-

a) The self-instructional course on the Locomotor system.
b) The programmed text on the healing of fractures.
c) Two sets of articles on the Hip Joint and its associated problems.
As both these students wanted to do a practical assessment while they were on this ward I also discussed this with each of them separately during their first week. In each case the student and I planned a programme of preparation for the assessment and I let each one know when I would be available to give them some supervised practice.

Profile of University Student Five

I visited this student five times during a five week orthopaedic allocation (September 24th, October 7th, 20th, 21st, 27th 1982). She soon started working on her self-instructional materials. As well as having to study in preparation for her Part C Ward Based Assessment she also had a lot of work to do on Medical Sociology which was one of the subjects she was currently studying on her weekly study day at the University.

This student was always enthusiastic and keen to work. She asked questions readily and gained information from the physio- and occupational therapist as well as the nursing staff. She worked hard towards her practical assessment which she took on October 21st. She was an excellent practical nurse and passed the assessment quite easily demonstrating a very high standard of nursing care.

In the third week of her ward allocation I issued her with three more journal articles as she had completed all the others. By the end of the allocation she had completed all the self-instructional work I gave her and had filled in her diary quite well. However she very rarely had her diary with her when I visited so we could not discuss the entries as we went along.

Overall this student did 13 hours 5 minutes study in her own time. This includes a two hour visit to the operating theatre to watch some orthopaedic surgery. The University students are not allocated to the operating theatres as part of their training and are therefore always pleased to give up their free time to visit this department.

On average this student did 2 Hours 36 minutes of study in her own time per week during her allocation.
She made the following comments on the use of the individualised learning materials:-

1) "Anatomy and Physiology. A Self-Instructional Course. The Locomotor System"

This student completed all four sections in the book in a total of 1 hour 20 minutes. She enjoyed using the book:-

"I found it gave a basic concise and clear description of anatomy and physiology and it would only take a couple of hours to get a good understanding of the subjects."

She found the level of the information quite acceptable and felt that all students allocated to the ward would find it useful.

"This book gives a basic understanding of how joints/muscles work and should therefore make it easier for nurses to know what degree of mobility etc to expect from a patient who has damaged particular bone/muscles. By understanding anatomy and physiology it will be easier to understand what is involved in different methods of treatment and the reasons for them."

As an overall comment this student felt:-

"The sections in the book are short and concise and so easily readable."

2) "Healing of Fractures. A programmed text"

University student five completed this programme in one hour. She enjoyed the programme:-

"The text was interesting, clearly and concisely set out and therefore easy to read. The diagrams helped to explain the healing of fractures well."

She felt that all students coming to the ward would find these books helpful.

"The books do not take long to work through, but give a basic understanding of fractures and their healing and make nurses aware of what's actually happening to a patient's injured limbs over a period of time and therefore give an understanding for different methods of treatment, importance of diet and exercise."

Pre-Test Score 16. Post-Test Score 20

This student made the following entries in her diary relating to her total learning experiences in the ward:-
1) **Demonstration or Supervision**
- Catheterisation supervised by Staff Nurse 15 minutes
- Observed removal of Denham Pin 10 minutes
- Demonstration of Skin Traction 15 minutes
- Applied Skin Traction 15 minutes
- Changed Redivac Drain 10 minutes
- Removed Continuous Suction Drains 15 minutes
- Gave Insulin Injections 10 minutes

<table>
<thead>
<tr>
<th>Activity</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Catheterisation supervised by Staff Nurse</td>
<td>15 min</td>
</tr>
<tr>
<td>Observed removal of Denham Pin</td>
<td>10 min</td>
</tr>
<tr>
<td>Demonstration of Skin Traction</td>
<td>15 min</td>
</tr>
<tr>
<td>Applied Skin Traction</td>
<td>15 min</td>
</tr>
<tr>
<td>Changed Redivac Drain</td>
<td>10 min</td>
</tr>
<tr>
<td>Removed Continuous Suction Drains</td>
<td>15 min</td>
</tr>
<tr>
<td>Gave Insulin Injections</td>
<td>10 min</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>1 hr 30 min</td>
</tr>
</tbody>
</table>

2) **Discussions**
- Rehabilitation - Occupational Therapist 10 minutes
- Hip Spica - Physiotherapist 10 minutes
- Getting patients up + demonstration - Physiotherapist 20 minutes

<table>
<thead>
<tr>
<th>Activity</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rehabilitation - Occupational Therapist</td>
<td>10 min</td>
</tr>
<tr>
<td>Hip Spica - Physiotherapist</td>
<td>10 min</td>
</tr>
<tr>
<td>Getting patients up + demonstration - Physiotherapist</td>
<td>20 min</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>40 min</td>
</tr>
</tbody>
</table>

3) **Lectures or Seminars**
- Application of T.E.D Stockings - Firm Representative 30 minutes

<table>
<thead>
<tr>
<th>Activity</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Application of T.E.D Stockings - Firm Representative</td>
<td>30 min</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>30 min</td>
</tr>
</tbody>
</table>

4) **Reading**
- Articles - various * 2 Hours 50 minutes
- Anatomy Text Book * 2 Hours 30 minutes
- Medical Sociology * 2 Hours 30 minutes

<table>
<thead>
<tr>
<th>Activity</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Articles - various</td>
<td>2 hrs 50 min</td>
</tr>
<tr>
<td>Anatomy Text Book</td>
<td>30 min</td>
</tr>
<tr>
<td>Medical Sociology</td>
<td>2 hrs 30 min</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>5 hrs 50 min</td>
</tr>
</tbody>
</table>

5) **Writing**
- Care Study for Practical Assessment * 1 Hour 30 minutes
- Case Study * 1 Hour
- Programmed Text - Healing of Fractures * 1 Hour
- Self Instructional Course - Locomotor System * 1 Hour 45 minutes

<table>
<thead>
<tr>
<th>Activity</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Care Study for Practical Assessment</td>
<td>1 hr 30 min</td>
</tr>
<tr>
<td>Case Study</td>
<td>1 hr</td>
</tr>
<tr>
<td>Programmed Text - Healing of Fractures</td>
<td>1 hr</td>
</tr>
<tr>
<td>Self Instructional Course - Locomotor System</td>
<td>1 hr 45 min</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>5 hrs 15 min</td>
</tr>
</tbody>
</table>
6) **Any Other Learning Experience**

<table>
<thead>
<tr>
<th>Learning Experience</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Preparation of Patient for Total Hip Replacement</td>
<td>1 Hour</td>
</tr>
<tr>
<td>Watched Total Hip Replacement in Theatre</td>
<td>2 Hours</td>
</tr>
<tr>
<td>Watched Patient on Split Bed</td>
<td>30 minutes</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>3 Hours 30 minutes</strong></td>
</tr>
</tbody>
</table>

* In student's own time

Overall this student had a total of 17 Hours 25 minutes new learning experience in 5 weeks on the ward.

**Profile of University Student Number Six**

I visited this student seven times during her five week allocation (September 24th, 30th, October 6th, 14th, 20th, 21st, 27th 1982). Unfortunately she had some difficulty fitting in with the ward team who found her practical work rather slow. She also had a lot of difficulty mastering the practical skills involved in the Part A. Assessment. I had a lot of practice sessions with her and gave her a lot of encouragement and instruction. Unfortunately she had to be referred when she did eventually enter for her assessment. As a result of all this she needed a lot of extra support and counselling.

However in spite of this set-back she studied hard in her own time throughout her allocation and finished all the self-instructional work she was given. She had several other subjects to cover including Medical Sociology and Microbiology. She also completed a case study. She kept her diary well and put in a lot more entries and detail than the R.G.N. students.

Overall she worked 26 Hours 15 minutes in her own time in a five week allocation plus a 3 Hour visit to the operating theatres. This gives an average of 5 Hours 15 minutes a week.

University student five made the following comments on the use of the individualised learning materials:

1) "Anatomy and Physiology. A Self-Instructional Course. The Locomotor System"

This student completed all four sections of this book which took her 1 hour 20 minutes. She enjoyed using the book:—
"It was well set out and clearly explained with good diagrams. Served as a useful reminder."

Regarding the level of the book she found the first two sections easy but felt this was to be expected as they were introductions:

"The sections on the skull, upper limb and lower limb were more difficult."

She felt the book would be helpful for all students who came to the ward:

"I think it would help nurses to understand the reasons for many surgical and nursing procedures used on orthopaedic wards."

2) "Healing of Fractures. A programmed text"

University student five only took about 40 minutes to complete this programme. She enjoyed using it because -

"I liked the continual summaries they used in the text. Explains the healing process simply but thoroughly."

She felt this booklet would be helpful for all students while they were on an orthopaedic ward because it -

"Gives a clearer picture of what is going on in an orthopaedic ward concerning fractures."

Pre-Test 10/20 Post-Test 20/20

3) "Hip Joint. A programmed text." I. King

This student also completed this programme quickly, only taking a total of 30 minutes. However she did not really enjoy it and found -

"the question/answer form of the text rather disjointed and over-simple."

However she did think it would be useful for other students on the ward.

"It does explain the anatomy of the hip joint well and therefore would be useful."

University student five made the following entries in her self report diary relating to any new experiences during her allocation:-
1) **Demonstration or Supervision**

<table>
<thead>
<tr>
<th>Activity</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assisted with catheterisation</td>
<td>5 minutes</td>
</tr>
<tr>
<td>Assisted with intravenous infusion - Doctor</td>
<td>30 min</td>
</tr>
<tr>
<td>Application of new type dressing - Second Year Student</td>
<td>30 min</td>
</tr>
<tr>
<td>Dressing wounds in practice for assessment - Tutor</td>
<td>1 hour</td>
</tr>
<tr>
<td>Removal of plaster of Paris - Observed Technician</td>
<td>1 hour</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>3 hours 5 min</strong></td>
</tr>
</tbody>
</table>

2) **Discussions**

<table>
<thead>
<tr>
<th>Topic</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teaching Report</td>
<td>20 min</td>
</tr>
<tr>
<td>Discussion on X-rays - Ward Sister</td>
<td>10 min</td>
</tr>
<tr>
<td>Discussion on Hip Spica - Physiotherapist</td>
<td>5 min</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>35 min</strong></td>
</tr>
</tbody>
</table>

3) **Reading**

<table>
<thead>
<tr>
<th>Topic</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medical Sociology</td>
<td>*3 hours</td>
</tr>
<tr>
<td>Microbiology (for Part A. Assessment)</td>
<td>*2 hours 20 min</td>
</tr>
<tr>
<td>Drug Information</td>
<td>*20 min</td>
</tr>
<tr>
<td>Myelogram - Drugs Used - Text Book</td>
<td>*1 hour 10 min</td>
</tr>
<tr>
<td>Journal Articles on Orthopaedics</td>
<td>*3 hours</td>
</tr>
<tr>
<td>Nursing Mirror</td>
<td>*1 hour 15 min</td>
</tr>
<tr>
<td>Tutorial Reading</td>
<td>*1 hour</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>12 hours 5 min</strong></td>
</tr>
</tbody>
</table>

* In student's own time

4) **Writing**

<table>
<thead>
<tr>
<th>Topic</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Programmed Text &quot;Healing of Fractures&quot;</td>
<td>*1 hour 50 min</td>
</tr>
<tr>
<td>Programmed Text &quot;Hip Joint&quot;</td>
<td>*30 min</td>
</tr>
<tr>
<td>Self-Instructional Course &quot;Locomotor System&quot;</td>
<td>*1 hour 20 min</td>
</tr>
<tr>
<td>Case Study</td>
<td>*6 hours 45 min</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>11 hours 10 min</strong></td>
</tr>
</tbody>
</table>

* In student's own time

5) **Other Learning Experiences**

<table>
<thead>
<tr>
<th>Topic</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Observation of Total Hip Replacement in Theatre</td>
<td>*3 hours</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>3 hours</strong></td>
</tr>
</tbody>
</table>

* In student's own time
Overall this student recorded a total of 29 hours 55 minutes new learning experiences during her 5 week allocation.

This completes the profiles of the student and pupil nurses on the pilot study. In order to summarise this section I will discuss it under the six aims of the pilot study which I started at the beginning of this section.

1) **To look at the practicalities of issuing self-directed learning materials to student and pupil nurses whilst they are allocated to the clinical areas**

The pilot study made me aware of several issues relating to the practicalities of implementing the type of project which I proposed.

To start with the issuing of the learning materials. During the pilot study and whilst studying the data it produced it became very obvious that learners studied at very different rates. Also because of various pressures both on and off-duty they were not always sure when they would have time to study. Because of both these factors it seemed most practical that each student should have a complete set of learning materials and that these should be issued altogether at the beginning of the learners' ward allocation.

Quite soon after the pilot study commenced it became obvious that the timings of my visits to see the learners was very important. My aim was to disturb the ward routine as little as possible in order to aid the acceptance of the project by the permanent ward staff as both of the orthopaedic wards are extremely busy. I found that the best time for me to visit during the day was between 2.15pm and 3.30pm in the afternoon and at night between 10.30pm and midnight. I would always consult with the trained staff when I arrived on the ward in order to ascertain the current state of ward work. If it was difficult to withdraw the learner at that moment I would always wait rather than have a rushed conversation when they were busy. I would make copies of the learners' off-duty regimes so that I knew which days they would be at work and also so that
we could plan together when I would make a subsequent visit. This overall strategy seemed acceptable to both the trained staff and the learners and seemed a workable method to adopt in the main study.

There was a lot of evidence in the pilot study to indicate that visits from a teacher to ascertain the learners' progress, and where necessary to give advice, were very important. Generally these visits seemed to improve the students' motivation to study. The general consensus was that a visit once a week was ideal even if only for a few minutes.

It was also very obvious that the teacher needed to be fully aware of all the circumstances relating to the learners' progress on the ward in order to help them with their studies. Every nurse on the pilot study had some individual problem or circumstance which affected their learning. These included sickness, being unhappy and feeling "left out" on the ward, pressures from practical ward assessments and, for the pupils on night duty, a hospital final examination at the end of their ward allocation. Night duty itself presented the problems of changed bio-rhythms which affects learning as much as eating and sleeping. One of the pupil nurses on night duty found it particularly difficult to adapt to night work. In all these cases learners needed extra support and counselling and this was something which I knew must be anticipated in the main study.

2) To look at the amount of time that student and pupil nurses spend on their private study when they are away from the ward areas in order to gauge how much it would be reasonable to expect them to do in the main study.

In data collected from the self report diaries no definite patterns emerged relating to the amount of time which learners devoted to study in their off-duty time (see Table 4.12). All that could be said is that the University Students did the most private study and that one of the pupils did the least.
Table 4.12  Average amount of study per week in their off-duty times completed by nurse learners in the Pilot Study

The learners demonstrated very different expectations of what they considered to be a lot of study. The enthusiasm for doing the work did not always relate to the quality or the quantity of the work which was completed. For example Pupil Nurse Three said she had never worked so hard although she only did an average of 45 minutes per week in her own time whereas Pupil Nurse Four who managed 2 Hours 30 minutes per week on average said that she always studied as much and that this situation was not unusual.

It was possible for the pupils on night duty to do some study while they were at work. For example Pupil Nurse Three did almost 7 hours and Pupil Nurse Four did 5½ hours whilst they were on duty. However only one student managed to do any study at work on day duty and this consisted of a total of 2 hours made up in a succession of short periods.

In spite of the fact that the University Students had a lot of other study to do in preparation for their weekly study
days and Practical Assessments they finished all the work I gave them.

Although all this information was very interesting it did not help me to know how much to expect of each group of learners. Overall it only emphasised the need to treat each learner as an individual and not as a member of a particular group with any specific norms.

I felt it would be interesting to continue to collect similar data in the main study to see if any patterns emerged when a larger sample was used.

3) To ascertain what new learning experiences each student and pupil considered they had whilst they were allocated to the ward in order to see if this fell into any sort of pattern on which to base the learning package

It can be seen from Table 4.13 that no real consistency with patterns of learning did emerge either relating to the time spent learning, the content or the method.

Only three learners made any mention of officially learning anything about lifting, moving and positioning patients and these were only for very short periods:

Student 1: Discussion on positioning patients with the physiotherapist 5 minutes

Student 2: Lifting patients on traction and in plaster. Demonstrated by a staff nurse 15 minutes

University 5: Getting patients up. Physiotherapist 20 minutes

This was very interesting considering that during their interviews nearly all the staff agreed that the most important type of knowledge and skill which students should learn on an orthopaedic ward was how to lift, move and position patients properly. This further emphasised the need to make a learning package on this topic.
Table 4.13 Type and duration of new learning experiences for the student and pupil nurses on the pilot study. Information taken from their self report diaries

<table>
<thead>
<tr>
<th>S = Student Nurse</th>
<th>P = Pupil Nurse</th>
<th>U = University Student</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1(S)</td>
<td>2(S)</td>
</tr>
<tr>
<td>Length of Ward</td>
<td>4 Weeks</td>
<td>4 Weeks</td>
</tr>
<tr>
<td>1) Demonstration or Supervision of Clinical Practice which you have not seen before</td>
<td>1 Hour</td>
<td>2 Hrs</td>
</tr>
<tr>
<td></td>
<td>25 Mins</td>
<td>5 Mins</td>
</tr>
<tr>
<td>2) Discussions (with colleagues, trained staff, doctors, physio-or occupational therapists, pharmacists, dieticians, patients)</td>
<td>4 Hrs</td>
<td>2 Hrs</td>
</tr>
<tr>
<td></td>
<td>5 Mins</td>
<td>30 Mins</td>
</tr>
<tr>
<td>3) Lectures or Seminars</td>
<td>30 Mins</td>
<td>2 Hrs</td>
</tr>
<tr>
<td>4) Reading (please give details of books or articles)</td>
<td>30 Mins</td>
<td>4 Hrs*</td>
</tr>
<tr>
<td></td>
<td>5 Hrs*</td>
<td>20 Mins</td>
</tr>
<tr>
<td>5) Writing (essays, case studies, programmed texts)</td>
<td>1 Hour</td>
<td>2 Hrs</td>
</tr>
<tr>
<td></td>
<td>30 Mins</td>
<td>30 Mins*</td>
</tr>
<tr>
<td>6) Any other experience from which you gained new knowledge, skills or attitudes</td>
<td>1 Hour</td>
<td>2 Hrs*</td>
</tr>
<tr>
<td></td>
<td>25 Mins</td>
<td>30 Mins</td>
</tr>
<tr>
<td>Total in own time</td>
<td>5 Hrs</td>
<td>6 Hrs</td>
</tr>
<tr>
<td></td>
<td>30 Mins</td>
<td>30 Mins</td>
</tr>
<tr>
<td>Total overall new learning experiences</td>
<td>13 Hrs</td>
<td>11 Hrs</td>
</tr>
<tr>
<td></td>
<td>35 Mins</td>
<td>25 Mins</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
* Work completed in student's own time
To evaluate three commercially produced programmed texts to ascertain their relevance for use by learner nurses on an orthopaedic ward

The majority of the learners filled in the evaluation sheets relating to these texts very well and made a lot of helpful comments. In summary:-

1) "Anatomy and Physiology. A Self-Instructional Course. The Locomotor System". Richards, R., Chapman, D.F.

All three groups of learners made favourable comments about this book. They found it was well set out and clearly explained. They liked the good illustrations and frequent tests. The time they took working through the book ranged from one hour (S1) to one hour forty-five minutes (U5). All three groups agreed that the level of work was suitable for them and that it would be a useful book to issue to all learners coming to the ward as it would help them to apply theory to practice.

2) "Healing of Fractures. A Programmed Text". Hull and Isaacs.

Again all three groups of learners enjoyed using this text. They found it clear and easy to understand. Several of them mentioned that they liked the continual summaries and said that the repetition made the facts easier to remember. Some also mentioned the fact that they could pick it up at any time and gain from studying the book for only a few moments. The time taken to complete this text ranged from 40 minutes (U6) to 2 hours (S2). As well as the 6 learners in the pilot study four others worked through this text (U8, S9, S10, S11). All ten learners' comments agreed over major issues.

3) "Hip Joint. A Programmed Text". I. King

Only three of the learners in the pilot study used this book although there was one representative from each group (S2, P4, U6). The student and pupil nurses enjoyed using the text although for the University student the question and answer
format proved rather disjointed and over-simple. However all three felt that it would be useful for all learners who were allocated to the ward to work through the text. The time taken to complete the text ranged from 30 minutes (U6) to 1 hour 30 minutes (S2).

In light of all these comments I decided that all three books would be suitable to use as part of the package as long as they were carefully monitored and that learners were counselled individually if they were unhappy about the level of presentation.

5) To monitor how pupil nurses, R.G.N. students and BSc., R.G.N. students react to using the same learning materials

Apart from the programmed text on the hip joint which one of the University students found over-simplified all the learning materials which I issued were well received by all three groups. There was no appreciable difference between the groups concerning the time taken to work through the books and what differences there were related to individuals rather than groups. Ever since I started the project I felt that as all learners work alongside each other on the wards it would seem appropriate that they should be issued with the same learning materials provided they were monitored individually to ascertain any problems. There was nothing in the data collected from the pilot study which suggested otherwise so I decided to pursue my original intention to only use one level of learning materials in the main study.

6) To monitor the research tools and assess how appropriate they would be for the main study

There were three research tools used in the pilot study: The self report diaries used by the student and pupil nurses. The evaluation sheets for the programmed texts and self-instructional courses. My own diary for recording discussions with learners and observations concerning their progress. I will discuss these individually.

a) The Self Report Diaries

All student and pupil nurses used their diaries well and kept to the correct code. However they needed a lot of reminders
and most of them entered several days at a time instead of making entries each day. Although I had chosen a small pocket-sized book which would fit into a uniform pocket there were very few times that the learners had their diaries with them when I visited. Because of this I made a special arrangement to discuss diary entries with each learner some time during the last week of their allocation so that they were complete by the time they left the ward.

By comparing the diary entries with my own observations and discussions about what was happening and basing the information on my own knowledge of orthopaedic wards I felt that these diaries were an acceptable way of gathering data about the learners' study patterns and other learning experiences. The entries which the learners made supplied the information I needed and the process did not appear to cause them any trouble. In fact some learners commented that they had enjoyed recording what they had learnt. I therefore decided to continue with this method of data collection in the main study.

b) **Evaluation Sheets for the Programmed Texts and Self-Instructional Course**

All the learners apart from one of the pupils filled in their evaluation sheets well. The comments which they made were all very useful and in many cases were longer and more detailed than I had expected. However as with the diaries it was necessary to give quite a lot of reminders in order to get these forms completed. This was no surprise to me and was in fact what I had anticipated.

As well as the six learners who were in the pilot study I asked four others to evaluate the programmed text on "The healing of fractures" (U8, S 9, 10 & 11) and one other to evaluate the Anatomy and Physiology Book (S7). Once again the majority of comments were favourable and the forms were well completed.

I therefore decided to adopt this style of evaluation sheet in the main study.
c) My own diary

I made entries in my own diary every time I visited a student or had any discussions with them or the ward staff. I found it essential to record information as soon as possible in order to be accurate. Keeping my own diary certainly added another dimension to all the other data but I felt it would have been better if I had made more detailed notes. Bearing this in mind I decided to continue with this form of data collection in the main study.

This pilot study had proved beneficial in giving me information on how the main project should be run and how the learners might react when issued with self-directed learning materials. It had highlighted the need for the tutor to visit each student and pupil about once a week if only for a few minutes. It had shown the need for the tutor to be aware of the effect of night duty, practical ward assessments, hospital examinations and other individual problems which might affect the students' ability to study.

It had also confirmed the need for the production of a learning package on lifting, moving and positioning patients which was indicated by the original interviews. It had helped to confirm my feelings that it should be possible to issue the same learning materials to all student and pupil nurses who were allocated to the ward and that the learning experiences and study patterns of the learners were very much an individual matter. They did not fall into groups according to their type of training although there was a trend to indicate that the University Students would devote more time to study than the Pupil Nurses.

This pilot study had shown that the research tools which I had used gave the information which I wanted and that they would be suitable for use in the main study (see Chapter Six).
CHAPTER 5: PRODUCTION OF NEW LEARNING MATERIALS
PUTTING THE PACKAGE TOGETHER

5.1 INTRODUCTION

As I mentioned in the previous chapter when I was discussing the monitoring of ready-made materials it quite soon became apparent that in order to make a learning package which was relevant and appropriate for use by students on the orthopaedic wards it would be necessary to produce a lot of my own materials.

Apart from the programmed texts on the anatomy and physiology of the locomotor system and the healing of fractures, the ready-made learning materials which I had purchased were not designed specifically for individualised learning. Not only that, but their content did not cover even the core of topics which had been considered essential learning when I drew up the objectives.

So two things needed to be done. New materials had to be produced which would cover core objectives and the ready-made materials which we had purchased had to be adapted to an individual approach. In this chapter both these operations will be described and discussed.

5.2 REASONS FOR CHOICE OF CONTENT AND MEDIA

The two main issues to address when producing distance learning materials are the content or subject matter and which media would prove most suitable.

From the point of view of the content I knew it would not be possible to cover all the topics contained in the learning objectives. In fact some of them would be learnt better by
using other methods. For example acquiring and improving interpersonal skills and attitudes would be better approached by discussion methods or role play than by individualised learning.

I decided to start by concentrating on the knowledge and skills surrounding ways of lifting, moving and positioning of orthopaedic patients. The need for this had been very strongly emphasised during my original interviews and was certainly confirmed by my own observations and experience. A lot of background knowledge of orthopaedic problems and their treatment was needed in order to carry out the skills of lifting and positioning patients correctly. This meant that a wide range of topics would be covered if this was taken as the central theme.

My choice of media for the production of my own materials was based on two main facts. Firstly, the ready-made programmed texts and individualised learning booklets which would be part of the total package were in printed form. I therefore wanted a different medium for the rest of the package in order to introduce variety. Secondly, as a lot of practical skills needed to be demonstrated for the chosen topic I felt I must use some form of visual impact. As I have mentioned before, I felt that videotape was both too expensive and impractical as it would necessitate the availability of monitors both in the hospital and in students' homes. I therefore decided to use tape/slide programmes. In fact one argument for using slides is that they are ideal for learning practical topics. With videotape it is often difficult to remember instructions given only once in moving pictures and it is not always easy to see just what you are meant to do, (Jenkins (1980) and Bates (1984)). It was hoped that the use of tapes would make the programmes more personal and help to reduce the isolation often felt by students using distance learning. It was also hoped that the use of tape/slide programmes would help motivation. To support
information and activities in the tape/slide programmes
I proposed to use display boards showing various orthopaedic implants which would cross-reference with a selection of recent articles from current nursing and medical journals. All these different media would be linked together with a locally produced study guide/work book. A teacher's guide would also be produced.

5.3 PRODUCING THE TAPE/SLIDE PROGRAMMES

a) Acquiring the skills. Laying the foundations

During my nurse tutor's course at Wolverhampton Technical Teachers College I was introduced to the methods and techniques of producing video-tapes and tape/slide programmes for educational purposes. Since working as a nurse tutor I have been involved in the production of one or two such programmes particularly those on video-tape. However as I was about to embark on a large scale project which included making a considerable amount of programmes I felt it would be helpful to attend another course. I therefore arranged to attend two one-week courses at the N.H.S. Training Aids Unit at Hydestile Hospital, Godalming, Surrey. I attended the first of these courses, "Making video-tapes for training" in June 1981 and the second, "Making tape-slide programmes" in October 1981. These courses proved a helpful background to both the planning and production of my own programmes.

b) Planning the programmes

My overall aim in planning the tape/slide programmes was to make them interesting, realistic, informative and of an acceptable length. As they were to be part of a programme of individualised learning there needed to be learning objectives for each section, the incorporation of activities on the part of the learner both during and after each programme and some method of assessment.
My first task was to break down the overall topic of lifting, moving and positioning patients on orthopaedic wards into meaningful sections, each of which would form an individual study unit. The learning objectives which we had formulated indicated the most common problems in these areas, so I used these as my guide.

After discussion with colleagues I broke down the subject as follows:-

**Lifting, Moving and Positioning Orthopaedic Patients**

**Part I.** General introduction and use of lifting aids.

**Part II.** Following Surgery to the Hip Joint

a) Introduction and Total Hip Replacements.

b) Following fractures of the upper end of the femur.

**Part III** Patients on Traction

a) Introduction. Types and uses of traction. Detail-skin traction.

b) Detail-skeletal traction. Conclusion of theory.

c) Lifting, moving and positioning patients with traction applied to their legs.

**Part IV** Patients with back problems.

These programmes were to be designed so that after Part I, Parts II, III and IV could be used in any order. The maximum length of each programme would be 30 minutes but learner activities would be introduced every 5 or 10 minutes.

As well as this series of programmes on lifting and moving I also decided to produce one on the use of the Stryker Wedge Turning Frame. This is a complex piece of apparatus used primarily for turning patients with spinal injuries. It is not used frequently but when it is needed it is usually for some emergency situation when there is no time to spend learning how it should be operated. I therefore felt that a tape/slide programme with clear instructions would be very helpful both in emergency situations and for training sessions. I had discussed this problem with a representative from
"Stryker International" the firm who produce the turning frame, and they felt that a programme of this nature would be very useful nationally as well as locally. I planned to break the programme down into two parts as follows:-

The Stryker Wedge Turning Frame

Part I  General introduction. Description of the turning frame and how it works.

Part II  Turning a patient with only one nurse.

Because of the nature of their injuries and diseases patients on orthopaedic wards are often receiving care and treatment over a long period of time both in hospital and in the community. This means that student nurses who are only allocated to the ward for a short time will only see a very small part of each patient's care. I therefore felt it would be helpful to produce some case studies on slides and to follow some patients right through the course of their care. These slides could later be made into programmes and used to give students the idea of the protracted nature of orthopaedic problems. During 1982 I followed through three patients in this way.

a)  A 72-year old man with osteoarthrosis of the right hip who had a total hip replacement using a Charnley Low Friction Arthroplasty.

b)  A 19-year old man with a fracture dislocation of his 5th and 6th cervical vertebrae and an oblique fracture of the lower third of his left humerus following a road traffic accident. He was nursed on skull traction for 12 weeks and started off his care on a Stryker Wedge Turning Frame. This patient recovered with no residual paralysis.

c)  A 62-year old woman who sustained a compression fracture of her 7th and 8th thoracic vertebrae following a riding accident. She was nursed on an Egerton Electric Turning Bed for 3 weeks. She was left with residual paralysis of her left leg and needed extensive physio-and occupational therapy.
Some of the photographs of these patients were used in the series of programmes on lifting, moving and positioning patients.

During the planning stage of the programmes I was very aware of both the ethical issues involved when photographing patients and the copyright laws relating to taking photographs of published works.

Each of the consultants on the orthopaedic wards gave me permission to photograph any of their patients, providing the patients themselves agreed. I got advice from a Medical Photographer concerning the type of document I should use to get patients' written permission for photographs (see Appendix 15).

Current legislation relating to copyright in the United Kingdom is governed by the Copyright Act of 1956. In order to get copyright clearance to photograph diagrams or graphs in any book or article it is necessary to write to the publisher. Any addition of music to the tape slide programmes would also need copyright clearance. Reproduction of mechanical musical work is most frequently dealt with by the Mechanical Copyright Protection Society, M.C.P.S. (Whale and Phillips, 1983). Later in this chapter I will refer to the applications I made for copyright clearance for both artistic and musical works.

c) Taking the Photographs

As I intended making a considerable amount of tape/slide programmes myself I knew that I must have professional help for the technical side of the production. This meant using professional photographers and audio-technicians. The University of Surrey has a large audio-visual aids department where I was able to get expert assistance in both these areas. Over a period of almost two years I was in weekly and sometimes daily contact with this department for some kind of help. During 1982 this was mainly for the taking of the photographs. Although I had definite plans for the content
of the programmes it was not possible to make these in a logical order. I had to wait until patients with the appropriate problems or needs were being cared for on the wards.

I used actual patients for every section of the programmes apart from Part IIb, "Fractures of the upper end of the femur", the reason being that these patients are often frail and elderly, and I did not feel it right to ask them if they would be photographed even if they were willing. I therefore used a very obliging hospital volunteer as the patient in this section of the programme. This was the only occasion that we were able to plan exactly how we were going to proceed. When real patients were involved circumstances could change right at the last minute meaning we were unable to go ahead with plans.

Not only was I dependent on patients, I needed shots of the nurses and other ward staff when they were caring for the patients. I was extremely lucky that there was a very helpful and skilled clinical teacher with an O.N.C. qualification on these wards who gave me a great deal of assistance. Not only was she happy to be photographed in many of the shots on lifting and moving patients but she also gave me a lot of help in the planning of the sequences for the various shots.

Throughout the whole time I was taking photographs I had excellent co-operation from staff, patients and relatives. Not one person refused or even seemed reluctant to be photographed. In order to get this kind of co-operation I cannot stress how very important I feel it is to plan sessions of this kind very carefully. Time must be set aside to give careful explanations to all concerned exactly what is expected of them and when it is likely to happen. As well as the patients and staff I would usually need to give the photographer several days' notice, as of course he had a lot of other commitments at the University. However if something did need to be done at short notice he would fit it in if at all possible.
The following is an outline of all the stages which I consider should be taken when taking photographs in the clinical areas:-

1. Several days in advance of taking photographs
   a) Have a definite aim for each session. Discuss the outline with colleagues in order to consolidate ideas.
   b) Look for appropriate patients or situations. Discuss the possibilities of using a particular patient with the ward sister. Get full information on a particular patient from their nursing and medical notes. I compiled a short case study for all patients I photographed so that I had full details when I came to write the scripts.
   c) Get the consultant's permission to take photographs.
   d) Discuss the whole situation with the patient. Explain exactly what pictures will be taken, how long this is likely to last and when it will be done. If the patient agrees get their signed permission. In the case of a minor get the permission of the parent or guardian.
   e) Arrange a time to take the photographs which is convenient to the photographer, the ward sister and the patient. Ask patients when they are expecting visitors and try to avoid these times if possible.
   f) Write out an exact sequence for the shots you want to take so that you can tick them off as you go along. It is very easy to miss a vital shot if you do not plan in this way.
   g) Discuss the sequence of the shots with all those involved including the photographer and where necessary have a rehearsal.

2. The day the Photographs are to be taken
   a) Arrive on the ward in advance of the photographer and make sure that the staff and the patient are still able to go ahead as planned.
b) Check that all necessary equipment is available and consider the background for the photographs. Straighten furniture, curtains and if needed generally tidy the area. A good shot can be ruined by something which is out of place in the background.

c) Have a final discussion with the photographer and staff involved exactly how you intend to proceed. After the first few sessions I found it was better for everyone if I was reasonably directive about each shot as this often cut down the need for retakes. As time went on, the whole procedure became quicker and more efficient as we all became more experienced. It could take two to three hours for any one session in order to get everything right.

d) After a session of taking photographs I was always very careful to make sure that the patient and the ward were left in order and that I thanked all those concerned. I would usually make arrangements to go back and show the photographs to the patients and I would often give them some prints of the shots which they liked.

3. After the slides are developed

a) Check and sort the slides. The photographer would usually take several shots from each angle using both direct and overhead lighting. This meant that I did have considerable choice and I was usually able to select just what I wanted. I found the use of a multiple slide sorter of great assistance at this stage.

b) Make arrangements to re-take any slides if necessary.

I followed this whole procedure every time I had a filming session in the clinical areas. For the case studies the sessions were quite short but frequent, whereas with the series on lifting and moving patients the sessions often went on for several hours but I did not plan them so often. If there happened to be some unusual treatment or piece of apparatus being used on the ward I would also get photographs of that although it did not fit into my plan.
In this way I was able to build up a useful library of pictures so that at a later date we could extend the range of programmes available for individualised learning.

As well as the shots taken in the ward areas a whole range were taken in the studios. These included small pieces of apparatus, diagrams, graphics, charts and X-rays. It was just as important to plan the exact sequence of shots for inanimate objects as it was for patients although of course the situation was more controlled. When producing the programme on the Stryker Wedge Turning Frame we turned an empty ward area into a studio and the photographer brought all the lights and reflectors to the hospital. Close up shots of the various manoeuvres for operating this bed proved technically very difficult because of the reflection on the metal. We also had trouble with this metal shine when photographing prosthesis and had to dull them down by using a special dulling spray (see Figures 5.3(c) 1, 2 and 3). I cannot over-emphasise how time consuming all these technicalities proved to be. On the Stryker Bed alone we spent six half day sessions just for the photography.

The production of the art work for some of the diagrams was also very slow. I did consider employing a professional artist for this but I knew that it would be very expensive and would not necessarily be any quicker. As I have a little artistic ability I did all this work myself using "Fleet Baryta" art paper as advised by the photographers (see Figure 5.3(c) 4).

I was lucky in obtaining copyright clearance for all the published illustrations which I wanted to use apart from one. This was of the hip joint in "The Textbook of Anatomy and Physiology" by Anthony and Thiboden, published by C.V. Mosby Co. 1979. Permission for copyright was withheld in this case because a contractual agreement with the medical illustrator, Mr. E.W. Beck, precludes the
Figure 5.3(c)1 An empty ward converted into a studio to photograph the Stryker wedge turning frame

Figure 5.3(c)2 Detailed shot of the base of the Stryker wedge turning frame to illustrate the problem of reflection on the metal
Figure 5.3(c)3  Dulling spray had to be used on the hip prosthesis to reduce the shine on the metal.

Figure 5.3(c)4  Example of some of the art work for the diagrams.
reproduction of his artwork.

All the lettering for the graphics was done on the Quadritek 1200 lettering machine in the Audio-Visual Aids Department at the University. I would produce a rough sketch for the layout and the Department would set it out on the machine and take photographs. We used several different colour schemes for this lettering in an effort to produce the most striking combination. Orange on black and white on blue were the most effective.

When all the slides were completed they had to be numbered as the students would be using slide viewers with a manual change. The reason for using a manual change was educational as well as financial. As students had activities to carry out they had to stop both the tape and the slides as they progressed through the work. If the tapes were pulsed and the slides were not numbered it would be very easy to get the sequence wrong when the programme was re-started. This could also apply if a manual change was used and if the number of each slide was not mentioned on the tape. The slides had to be sent away to "Slide Format", 273 Regent Street for this numbering process. Though vital, this was a very expensive exercise as each slide cost £1.00 and in total there were 382 slides.

Once the master slides had been produced and numbered the Audio-Visual Aids Department could run off the copies themselves. At any one time there would be between six and ten learners on the orthopaedic wards so I started off by having ten complete sets of the slides produced.

d) Writing and Recording the Scripts

Most publications which advise on the production of tape slide programmes suggest that the scripts should be written before taking any photographs. In a situation where you know exactly what the subject of the photographs will be I do agree that this is the best method. Whatever
the situation, you must have a definite aim in order to plan the outline of the programme before taking the slides. However if you are operating in a clinical situation, as I was, you do not know in advance who your subjects will be as they may not yet be in hospital. You therefore have to take a more flexible approach.

Before I wrote the scripts in any detail I had taken most of the clinical photographs. I would then look at each slide as I wrote the script and I would use details from the case studies which I had compiled on each patient. I did leave a lot of the studio work, particularly the diagrams and graphics, until after I had written the script as this was work which could be strictly controlled.

One of the most difficult things was keeping each programme within a maximum time scale of half an hour which was a target I set myself. In fact the experts advise that an ideal length is 20 minutes in order to maintain student concentration and motivation. This I believe to be true, but as I introduced two or three activities (drawing diagrams, making lists, studying bones or models) into each of these programmes, the maximum time of listening without a break was never more than about 10 minutes. Because of this I felt I could extend the total length of each programme to around half an hour.

During the perfecting of the script I would make a provisional recording which I would play back as I watched and changed the slides. I asked my clinical teacher colleague to come to these play-back sessions and comment on content and level of explanation. This proved to be an extremely useful, though once more very time consuming exercise, and helped me a great deal. As each script was completed I had it typed out in double spacing with the topic and number of each slide next to the appropriate narrative (see Appendix 16 for example).
While I was writing the scripts I discussed the procedure for recording them with the sound technician in the Audio-Visual Aids Department. The Department had all the facilities for making the recordings and offered me their assistance. Once more I considered the use of a professional, this time a narrator, for making the recordings. On investigation, as with a professional artist, this would have proved a very expensive venture and would have presented quite a lot of organisational problems. I did have a sound test myself which was not too successful, though I felt with more practice that I could be self sufficient. Eventually I contacted a local school of acting as I had heard that their students were pleased to be offered small pieces of work of this nature. The School introduced me to two of their final year students who were very willing to help. One of them had just won the first prize for elocution.

I discussed the whole project with these drama students and showed them a sample of the slides. They divided the work between them and took away copies of the scripts for practice. We ran into two main problems here. Firstly they both had great difficulties pronouncing the medical terms which naturally affected the flow of the speech. I had several rehearsal sessions with them when we looked at each slide as we went along to try to make the sentences more meaningful for them. Although this did help we needed more rehearsals than I had anticipated. The second problem was that one of the students was extremely nervous when she got into the sound proofed booth for the final recordings. The combination of these two problems did mean that we had to re-do quite a lot of the recording which proved administratively quite difficult. The studios and technician had to be booked for a time when both the students and I were free. I mention these problems in order to explain why these tapes took so long to produce. I first contacted the School of Acting on May 16th, 1983 and made the final recording to correct some errors on September 7th, 1983. Once again the technical aspects of production had proved very time consuming.
Once the master tapes were made, reproduction was a comparatively simple and rapid operation which was done at the University. I had bought the copyright for a short piece of lively music using drums and a synthesizer which I wanted to use as a theme tune to make the opening of the programme more stimulating. The music "The Plus Factor" was written by an orthopaedic patient, a professional drummer who was in hospital following a road traffic accident. Some of the student nurses selected this particular piece from several he had written. It only lasted 2.11 minutes which was an ideal time for a piece of introductory music. I negotiated with the licensor, K.P.M. Music Limited, and managed to get the copyright for £52.00 which I understand is quite reasonable.

The series of tape/slide programmes on lifting, moving and positioning orthopaedic patients and the ones on the Stryker Wedge Turning Frame were completed in September, 1983. This made a total of nine programmes. Although there was still more work to do completing the three case studies I decided to introduce the learning package at this stage. I felt I had a wide selection of subject matter and a variety of media and I was anxious to get the main part of the research project underway.

5.4 DISPLAY BOARDS

Before I started this project both the orthopaedic wards had small miscellaneous collections of the various pins, plates, screws and prosthesis which are used in orthopaedic surgery. However these were not organised in any way and were by no means a complete range of the common implants which the local surgeons used.

I felt it would be very helpful to all the staff on the ward if a complete range of common orthopaedic implants could be displayed in an organised way and appropriate
literature was provided to give an explanation. This could be incorporated into the individualised learning programme and would provide an additional type of medium.

Quite soon after I started the project I began collecting the necessary equipment. An explanation of the ways in which I obtained the various pieces is given in Chapter 4.5.

I discussed the idea of producing a display board with several people all of whom agreed that it would be helpful. I gave considerable thought to the type of board that should be used together with possible methods of attaching fairly large metal objects. I had seen peg board used for a similar purpose so decided to purchase a piece. It is cheap, fairly strong and easy to attach things to. I strengthened up the edges with slats and painted it bright yellow. I was very aware of all the work which has been carried out on the effective use of colour in visual learning aids and made a definite plan to use it to increase impact and arousal at all stages (Dwyer, 1970).

I found that the various grades of fuse wire were very suitable for attaching the items to the board. It was very strong, pliable and easy to secure. I left space under each item for labelling and in some cases included a diagram or photograph to indicate how each piece was used (see Fig.5.4(1)). Each item was numbered to act as a quick cross reference point with information in the students study guide and relevant articles which were also numbered. All the labels were covered with "Vistafoil" to preserve them and keep them clean.

Ideally I would have liked to produce two display boards so that one could have been situated in each ward area. This was not possible as it was so difficult to obtain examples of the various items. I therefore decided to site the board in the instructor's room between the two wards. This was open day and night and also contained the skeleton and anatomical charts which could be used in conjunction with the display board.
Figure 5.6(1) The complete contents of one Learning Package together with the holdall used for their transportation.

Figure 5.4(1) Display of common orthopaedic implants on a board in the Instructors Room between the two wards.
Figure 5.5(1) Each article is numbered to correlate with the various items on the display board.

A student working through one of the tape/slide programmes at home.
5.5 SELECTION OF ARTICLES

In Chapter 4.5 under the section on textbooks and articles I gave details of all the relevant up-to-date articles which I felt it would be useful to include in the learning package. I chose articles from a cross-section of both nursing and medical journals and duplicated enough copies for each student to have a complete set. I also made several spare sets which could be kept centrally for use by any member of staff. I bound all the articles with orange or red cover boards and labelled each one giving it a reference number to correlate with the various items on the display board (see Fig. 5.5(1)).

My aim in using articles as opposed to textbooks was twofold. Firstly, for the most part the information they contain is more up-to-date. Secondly I wanted to emphasise to the student the wide range of relevant journals which are available in a specialist subject with the hope that this would increase their awareness. There are strong indications in a previous study on the use of journals by trained nurses that the number they refer to regularly is very small. Most respondents mentioned only the Nursing Mirror and Nursing Times (Stapleton, 1983). In the questionnaire I issued to the students on the main part of my study I included a section on the use of libraries generally and the reading of journals in particular. The results will be discussed in a later chapter.

5.6 PUTTING THE LEARNING PACKAGE TOGETHER

I have now mentioned all the various types of learning materials which I produced myself. In chapter 4.7 and 4.8 I discussed the monitoring and purchasing of ready-made materials. Before the main project could be put into operation I had to decide on a method of putting all these materials together so that a complete set could be issued to each student.
The pilot study had convinced me that it was necessary to give the students all the learning materials together at the beginning rather than issuing individual units as they went along. On a busy ward with learners all working different shifts and in a situation where the teacher was only in the ward areas for a limited time the mechanics of issuing individual units would be very difficult.

Each student was to be issued with the following:

1 Portable Cassette Player
1 Agfascope 200 Slide Viewer
7 Tape/Slide Programmes in Folders
1 Femur, ½ Pelvis, 2 or 3 Vertebrae
1 Self-Instructional Course Book on Anatomy and Physiology. A4 size
2 Programmed Texts
8 Sets of Articles Bound in Cover Boards
1 Study Guide/Work Book

These materials had to be taken away from the ward areas either to the nurses' residences or to their homes depending where they lived. The materials were quite valuable and reasonably fragile. Careful thought had to be given to their transportation.

I did a survey of shops which sold bags and cases and after considerable searching found a strong waterproof holdall of the appropriate size which I felt would be suitable. It had side pockets which would accommodate the books and a solid bottom strong enough to support the cassette player, slide viewer and slides. The holdalls were reasonably priced at £4.00 each and were produced in an attractive colour range (see Fig. 5.6(1)).

I purchased ten of these holdalls and labelled each one giving details of an address and phone number to contact if the bag was found and obviously abandoned. The security of all this equipment did have to be considered very carefully.

Several of my colleagues were of the opinion that students
Figure 5.6(2) Earphones are provided for use in the ward at night

Figure 5.6(3) Additional Tape/Slide Programmes and Anatomical Models are stored in a cupboard in the Instructors Room
would lose or damage the learning materials and this was something I wanted to observe closely in my study. A large steel locking cupboard had been provided by the School of Nursing to store equipment centrally in the instructors' room. I wanted to keep some materials centrally to see if students and other staff would use them if ward work permitted. One set of locally produced tape/slide programmes was kept in the cupboard as well as all the readymade ones I had purchased. All slides were prepared in carousel slide trays ready for use on a Caramete machine which was also in the cupboard. This meant that the programmes could be used either by individuals or small groups either in the wards or the instructors' room. Earphones were provided for use in the ward at night (see Fig. 5.6(2)). Several anatomical models and a series of tape/slide programmes on anatomy and physiology which students could borrow to take home were also kept in the steel cupboard (see Fig. 5.6(3)). I had cupboard keys cut for the teachers, the two wards and each of the learners.

Full details of all the learning materials which are kept centrally in the instructors' room are given in the Study Guide/Workbook page 51 (see Appendix 4).

5.7 STUDY GUIDE/WORK BOOK

In order to indicate to the student and pupil nurses just how they should use all these learning materials I produced a study guide/work book (see Appendix 4). This book starts by introducing the student to the concept of individualised learning together with specific details concerning the orthopaedic wards. This is followed by a section on the terminology of orthopaedics for the students to complete for themselves. A detailed description is given of the contents of the learning package and how all the programmed texts and tape/slide programmes should be used.
Spaces are left in the text for the student to complete the various activities as they progress as well as copies of the self-tests on anatomy and physiology from the self-instructional programme. Learning objectives and follow up exercises are included for all the tape/slide programmes as well as activities whilst the programmes are in progress. All the materials which are kept centrally are listed and detailed explanations are given about all the orthopaedic implants on show on the display board together with the titles of cross-reference articles. Spaces are left for students to keep a record of patients they have nursed who have had these various implants inserted. Finally information is given about books and journals relevant to orthopaedics which are available in local libraries. For the R.G.N. students a list of questions on orthopaedics from recent English National Board Final Examination papers is also included for reference when revising. A sample of the Study Guide/Work Book is included in the appendix 4).

5.8 COMPILING THE PRE-AND POST-TESTS

Based on the content of the learning package I designed Pre- and Post-Tests for the students. The pre-test, which would be administered before the student was given the work, would be used as a diagnostic tool to assess the learners' ability to cope with the package. The result would be used as a basis for giving individual advice as to how they should approach the work and would indicate to the teacher the type of support the student would need. The post-test, which would be an alternative form test\(^1\), would be administered at the end of the student's allocation to the ward. This test would be used as one means of assessing the way in which the student had used the learning materials and also how they were progressing generally. Again the results of the post-test would be used to advise the student on any further study or revision which may be needed.
I wanted to use the scores from the pre- and post-tests to compare the three different groups of learners who were using the package to see if they fell into any significant patterns. I intended to issue the same test to students, pupils and university students.

As the learners would have to be relieved from their ward duties to do these tests I knew that they should not last longer than about 30 minutes. In order to include a cross section of topics in the questions the majority were multiple choice with one short answer question including a diagram at the end. I took a lot of care to make the questions representative of the content of the learning package and to relate a high proportion to nursing care situations. I devised a specific answer sheet to help to increase the speed of administration and marking.

1. Alternative Form Test

An alternative form post-test is parallel to the pre-test in its content and the mental operations required but the questions are slightly different. This helps to eliminate the influence of practice and memory which might occur if the same test were used both before and after the learning experience.

(Tuckman B.W., 1978)
5.9 TEACHERS' GUIDE

In order to help other teachers who were eventually going to be involved in organising the project I wrote a teachers' guide. This gives a general background to the whole project including the aims of using individualised learning materials for learners in the clinical areas. Details of all the learning materials are given and advice is offered on the administration and marking of the tests. A teachers' check list is included itemising the various organisational stages of running the whole programme. (A specimen copy of the teachers' guide is included in the appendix 5.)

5.10 SUMMARY AND DISCUSSION

In this chapter I set out to describe the methods and procedures I used to produce new learning materials and how I combined them with ready-made materials and a study guide to make up the orthopaedic learning package. I have tried to emphasise the importance of careful planning at every stage and the need to be aware of the ethical issues involved when working in a clinical environment as well as copyright laws when reproducing published materials. Not only is careful planning and preparation essential in order to attain a high standard product but it is also vital in fostering and maintaining the cooperation and goodwill of colleagues and patients with whom you work.

In relation to the production of the tape/slide programmes I endeavoured to portray the constraints on writing the scripts prior to taking photographs when you are dependent on patients as subjects. On the other hand I hoped to convey how important I feel it is to the validity of the programme to use real life situations wherever possible.
Looking back over the period that I produced the new materials two issues stand out above all others which I hope I have emphasised sufficiently in this chapter. Above all it took a very long time. Almost two years in all. It could be questioned in a research project of this nature whether such a high proportion of the time should be spent producing the materials. Undoubtedly if I had settled for the printed word as my sole type of medium the whole project would have progressed much quicker. On the other hand I am certain that this would have made very little impact on the students and would not have been considered in any way an innovation. It would also have been very difficult to convey some of the vital concepts in the printed word alone.

The second issue is the whole debate on whether or not to use professionals to help with the production of the more sophisticated materials such as tape/slide programmes. To a large extent this obviously depends on the technical expertise of the individual teacher who is producing the programme. Some teachers, including nurse teachers, are expert photographers and competent artists with clear, melodious voices which record well. Others are not. I feel the most important issue is to know your own strengths and weaknesses, to get help where necessary and always to aim for a professional product. Throughout the production of the programmes I thought many times of the quote, which I also used in Chapter 4.6. of one of the second-year students whom I had interviewed regarding the use of tapes and slides:

"It all depends on the content, it's got to be professionally done, no muffled voices, straight to the point, someone with an interesting authoritarian voice, you know what I mean, and good sort of diagrams, I mean like anything if it's properly done it would be much more interesting than something foggy and boring."

I would certainly not have attained the same standard of production without a professional photographer and audio technician though there were certainly times when progress
would have been much quicker if I could have done this work myself. When we recorded the scripts and I used two professionals, an audio technician and a narrator, progress was particularly slow for a comparatively small piece of work due to the difficulty of getting everyone together.

However now that the project is completed I feel that it is the tape/slide programmes and the visual displays which have been the most successful media. These are the learning aids which have added another dimension to an otherwise conventional system. This whole topic concerning the justification for the time and money spent in the tape/slide programmes will be discussed in greater detail in Chapter 7 which looks at data analysis.

Finally I want to stress how important I feel it is to give very careful thought to the way in which a project of this nature is tied together and presented to the student. Learning materials must be collated in an orderly way and the study guide for both the student and the teacher must be clear and logical. Any tests should be carefully compiled and relate to the content of the package.
6.1 PREPARATION OF THE TRAINED STAFF

During 1981 the General Nursing Council Education Department launched their Learning Package "Aspects of Sick Children's Nursing" which had been produced for them by "Learning Materials Design" (see Appendix 17). I first heard about this package at the Association of British Paediatric Nurses Conference in November 1981 and subsequently arranged to hold a study day to discuss it in June 1982. I felt it would not only be of help to me to learn more about such a package but it would also help to introduce all the staff concerned with my project to the concept of using learning packages in the clinical areas. This study day, which was run by a representative of Learning Materials Design, was attended by 50 staff and created a useful focus onto the use of learning packages generally and generated a lot of interest.

As I did not finish compiling the orthopaedic learning package for more than a year after this study day I felt I needed to organise some other event to herald its implementation. Although many of the local staff had been involved with the production of our own materials I felt that very few of them had seen the total range. I therefore decided to set up an exhibition of all the materials to demonstrate which ones would be kept centrally and which would be issued to the students. As well as the learning materials I included a selection of books and journals relating to orthopaedics which were kept in the various hospital libraries.
The exhibition was staged in the seminar room situated between the two wards so that it would be easy for staff to visit during any slack moments they may have while they were on duty. Individual invitations were sent to all the ward staff including nurses, doctors and paramedicals as well as a variety of other staff from the School of Nursing, the University of Surrey and the Health District generally who were known to have an interest in the project. The exhibition was open for two consecutive days from 11.00 am to 6 pm and for one late evening from 8.00 pm to 12.30 am in order to give the night staff an opportunity to visit.

Overall 75 people visited the exhibition and included the following groups and individuals:-

1. **Hospital Staff**
   a) **The Orthopaedic Wards**

<table>
<thead>
<tr>
<th>Role</th>
<th>Day Duty</th>
<th>Night Duty</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ward Sisters</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Staff Nurses</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Enrolled Nurses</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Student/Pupil Nurses</td>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td>Physiotherapists</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Occupational Therapists</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Social Workers</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Nursing Auxiliary</td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>

   b) **Other Wards and Departments**

<table>
<thead>
<tr>
<th>Role</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clinical Nurse Specialists</td>
<td>2</td>
</tr>
<tr>
<td>Ward Sister (Accident and Emergency Dept)</td>
<td>1</td>
</tr>
<tr>
<td>Staff Nurses</td>
<td>5</td>
</tr>
<tr>
<td>Student/Pupil Nurses</td>
<td>2</td>
</tr>
<tr>
<td>Fracture Clinic</td>
<td>2</td>
</tr>
<tr>
<td>Plaster Room</td>
<td>3</td>
</tr>
<tr>
<td>Pharmacy</td>
<td>6</td>
</tr>
<tr>
<td>Houseman</td>
<td>1</td>
</tr>
<tr>
<td>Clinical Teachers (Paediatrics, E.N.T.)</td>
<td></td>
</tr>
<tr>
<td>Secretarial Staff</td>
<td>1</td>
</tr>
<tr>
<td>Audio/Visual Aids Technician</td>
<td>1</td>
</tr>
</tbody>
</table>

2. **Nurse Education Centre**

<table>
<thead>
<tr>
<th>Role</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Senior Tutors</td>
<td>2</td>
</tr>
<tr>
<td>Nurse Tutors</td>
<td>4</td>
</tr>
<tr>
<td>Clinical Teachers</td>
<td>4</td>
</tr>
<tr>
<td>Secretarial Staff</td>
<td>1</td>
</tr>
<tr>
<td>Audio/Visual Aids Technician</td>
<td>1</td>
</tr>
</tbody>
</table>

3. **The Area Health Authority Generally**

<table>
<thead>
<tr>
<th>Role</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chief Nursing Officer</td>
<td>1</td>
</tr>
<tr>
<td>Librarian for Post Graduate Medical Centre</td>
<td>1</td>
</tr>
</tbody>
</table>
On the whole I was pleased with the attendance particularly with the wide spread of representation from different institutions and departments. However I had hoped that more staff would have been able to visit from the orthopaedic wards themselves as they would be the most involved. Unfortunately one of the Ward Sisters on day duty was sick which made the ward extra busy. Overall only 2 out of 9 staff nurses and 2 out of 10 enrolled nurses were able to visit the exhibition.

Nevertheless as an introduction to an innovation I did at the time feel that the exhibition was a success. It marked the end of a long period of preparation and publicised the onset of the project which I had been promising for nearly two years. As I asked for opinions about the exhibition in my final interviews I will refer to the whole topic again later in the thesis.

As well as the exhibition I did have several discussions with individuals and small groups who would be closely involved with the running of the project. These included the clinical teacher and tutor for the Trauma Unit, the day and night sisters and several staff nurses. A new clinical teacher for day duty arrived on the wards the same week as I held the exhibition. The timing was completely coincidental. There had not been a clinical teacher on the unit prior to this for several months, meaning that two educational changes were happening at once. I will address the whole area of the effect of staff changes on educational projects later in this chapter.
6.2 PREPARATION OF THE STUDENTS

I introduced the main project immediately after the exhibition had finished so as not to lose any impetus. Some of the first student and pupil nurses to use the learning package came to the exhibition so I was able to explain it to them individually and demonstrate all the materials. After this initial period I got into a routine of visiting the whole group when they were in the School of Nursing at the beginning of the Trauma Unit. I would make arrangements with the tutor for the group to have an hour of programme time to explain the project and to introduce the workbook and the learning materials. I had a series of slides produced to illustrate the important aspects of the project including photographs of the learning package, the display board and other materials kept centrally (see Chapter 5). I included several clinical shots which were in the tape/slide programmes and discussed them with the students to help to introduce them to the whole concept of orthopaedics and hopefully to increase their motivation to use the package. It was during this introductory session in the School of Nursing that I asked the students to complete their introductory questionnaires so that I had all their details before they arrived on the ward. I stayed in the room while the questionnaires were completed and asked students not to confer. The majority took about 20 minutes to fill out these forms although some would need more, particularly if they included a lot of comments after question 26 (see Appendix 18). I was careful not to collect any of the forms until the whole group had finished, to prevent the slower ones from rushing over the final section. The majority of the students took completion of the questionnaires very seriously and seemed genuinely interested in the whole project. I would leave time for questions and discussion at the end of each session.
6.3 PRE-TESTING

Whenever possible the pre-test was issued to the learners several days before they started on the orthopaedic wards. This would either be at the end of the week they were in school for students who went straight to the orthopaedic wards after study block, or during the last week of their allocation prior to orthopaedics. The majority of students were allocated to the Intensive Therapy Unit before Orthopaedics where it was usually possible for them to be released for half to three-quarters of an hour one afternoon to do the test. The trained staff in the Unit were very helpful and would do their best to make this possible. Once the students had done their pre-test they were issued with a workbook/study guide so that they could do some of the introductory reading before going to the ward. I would also issue and explain the use of the self report diary at this stage so that students could use them from the first day they started on Orthopaedics.

The pre-tests were marked and a list made of the subject areas which students had got wrong. References were given to the learning units in the package which related to these subject areas to help the students to organise their work programmes. These correction lists were issued at the same time as the learning package.

6.4 ALLOCATION OF THE LEARNING PACKAGE

There is no doubt that the ideal situation for the allocation of the learning package would have been to issue it before the students arrived on the orthopaedic ward. This would have given the students the opportunity to start studying the subject before they practised it. However as we only had 10 sets of materials this was not possible as the packages could not be collected from the previous group until the final week of their allocation.

After collection the materials had to be checked and if necessary tidied up ready for the new group of students. This meant at the earliest it would be Monday of the first week of
their allocation before they were issued with the learning package. I would get a copy of each student's off duty rota and arrange with them to be released from the wards for about half an hour on either Monday or Tuesday afternoon. Sometimes I managed to get a group of two or three students together but very often only one could be released at a time meaning that it might take two or three sessions to issue all the packages. The advantage of seeing students one at a time was that their tests could be discussed on a more individual basis and advice given accordingly. It also gave me the opportunity to get to know each of the students better at the beginning of their allocation.

The advantage of seeing students in small groups was mainly that it was less time consuming for me as the teacher and meant that I did not have to repeat the same information several times. Also some students appeared more relaxed in a small group and were perhaps more likely to ask questions.

I would describe the whole project again as I had at the beginning of the Trauma Unit, but this time in more detail. I would make sure that each student understood how all the equipment worked and how all the units related to the study guide/workbook. I would show the students all the learning materials which were kept centrally and issue them with their own key for the storage cupboard. Students were asked to complete evaluation sheets for each of the tape/slide programmes and the programmed texts (see Appendix 14).

Most of the students who were resident would take their learning package home on the day it was issued. A few of the non-resident students without the use of a car did however have difficulty in transporting the package if they cycled to work or used public transport.
6.5 SUPPORTING/VISITING STUDENTS AND PUPILS WHILE THEY WERE USING THE LEARNING PACKAGE. MONITORING THEIR PROGRESS AND OPINIONS

I followed the same pattern for visiting and supporting the students and pupils while they were using the learning materials that I had used during the pilot study. That is, I visited each one about once a week (see Chapter 4.7). These visits lasted anything from 5 minutes to half or three-quarters of an hour depending on the time available and the needs of the individual learner. I kept a written record of my visits and reminded the student to keep their own self report diaries up to date and to fill in the evaluation sheets as they progressed through their work.

I continued the monitoring process over a period of 9 months from September 1983 to June 1984. During this time a total of 50 learners had used the package. The numbers involved from each of the three groups were:

- Pupil Nurses on Night Duty: 12
- Student Nurses on Day Duty: 31
- Undergraduate Student Nurses: 7

Total: 50

6.6 POST-TESTING

The post-test was administered as near to the end of the learners' allocation to the orthopaedic wards as possible. This would usually be on the Thursday or Friday of their final week. Occasionally it would be at the beginning of the following week after the learner had moved to the next area. Once again the tests were usually done during a slack time in the afternoon when the learners could be removed from the ward. Some students offered to do the test in their off-duty time if the ward was very busy. For the pupils on night duty I let them choose whether they would arrive a bit early and do the test before they went to work or whether they would like me to visit them later on so that they could do it in the middle of the night. Opinions were approximately evenly divided.
I would mark the post-tests immediately with the help of the learner so that any problem areas could be discussed straightaway. When necessary I gave advice on the need for further study.

All the learners' post-test scores were an improvement on their pre-test scores apart from three of the student nurses. All these three had high pre-test scores with S30 gaining the highest of all the students on the project (see Table 6.1).

<table>
<thead>
<tr>
<th></th>
<th>Pre-Test</th>
<th>Post-Test A</th>
<th>Post-Test B (after six months)</th>
<th>Total Time Working on Package</th>
</tr>
</thead>
<tbody>
<tr>
<td>S25</td>
<td>78%</td>
<td>76%</td>
<td>93%</td>
<td>14 Hrs 52 mins</td>
</tr>
<tr>
<td>S30</td>
<td>88%</td>
<td>78%</td>
<td>84%</td>
<td>5 Hrs 28 mins</td>
</tr>
<tr>
<td>S31</td>
<td>72%</td>
<td>70%</td>
<td>69%</td>
<td>2 Hrs 28 mins</td>
</tr>
</tbody>
</table>

Table 6.1 Test Scores of Students Who Scored Better in Their Pre-Test Than They Did in Post-Test A

Both S30 and S31 worked for a short time only on the project which is a possible explanation. S25 who did much more work did pick up on marks on the long term test.

There were definite differences between the three groups of learners in their range of marks for all the tests falling into what could be regarded as an expected pattern:-
Pre-Tests

<table>
<thead>
<tr>
<th></th>
<th>Range</th>
<th>Mean</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pupil Nurses</td>
<td>42% - 66%</td>
<td>55%</td>
<td>12</td>
</tr>
<tr>
<td>Student Nurses</td>
<td>47% - 88%</td>
<td>66%</td>
<td>31</td>
</tr>
<tr>
<td>University Students</td>
<td>66% - 75%</td>
<td>69%</td>
<td>7</td>
</tr>
</tbody>
</table>

Post-Test A

<table>
<thead>
<tr>
<th></th>
<th>Range</th>
<th>Mean</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pupil Nurses</td>
<td>63% - 88%</td>
<td>74%</td>
<td>12</td>
</tr>
<tr>
<td>Student Nurses</td>
<td>69% - 99%</td>
<td>86%</td>
<td>30</td>
</tr>
<tr>
<td>University Students</td>
<td>78% - 97%</td>
<td>90%</td>
<td>7</td>
</tr>
</tbody>
</table>

Post-Test B (Long Term)

<table>
<thead>
<tr>
<th></th>
<th>Range</th>
<th>Mean</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pupil Nurses</td>
<td>54% - 82%</td>
<td>71%</td>
<td>10</td>
</tr>
<tr>
<td>Student Nurses</td>
<td>63% - 93%</td>
<td>77%</td>
<td>30</td>
</tr>
<tr>
<td>University Students</td>
<td>73% - 94%</td>
<td>84%</td>
<td>7</td>
</tr>
</tbody>
</table>

Full details of the pre-and post-test marks for all the learners together with other quantitative data which has been obtained can be seen in tables 7(A)2(iii) to 7(A)2(vii).

When all the subjects in my sample had completed the tests I used the General Nursing Council (78/20) guidelines on "Validation of objective tests" to obtain the facility and discrimination indices for the objective type items. As a few items produced borderline or poor results these were changed for subsequent groups who would use the test.

During their interviews none of the learners were unhappy about having to take tests and they all agreed that this was a very helpful part of the whole exercise.

Having a pre-test to diagnose the strengths and weaknesses in their knowledge of the subject before they came to the ward proved very useful to many learners as can be seen from the following quotes:-
P4 "I think it (pre-test) really does make you think how much you do really need to learn in the end though."

S30 "That's a good idea (pre-test) especially when you'd written out the list of areas that we weren't very good at and that we needed to concentrate on."

U7 "I felt having a test beforehand, I mean it gave me a bit of confidence because I felt 'Oh I do actually know a bit about the subject'."

U5 "It (the pre-test) made me realize what I didn't know and what I would have to concentrate on more in the book."

Learners found that their motivation and incentive to work was increased when they knew there would be a post-test at the end of their ward allocation. Having immediate feedback with the results of this test gave them a feeling of accomplishment which was not often felt under the present system.

P1 "It's interesting, just to see how much you've sort of learnt."

P5 "I think it's (testing) a good idea, I mean it does prove to you that you can do it."

S20 "I think it would be helpful everywhere, you feel as if you've learnt something then, you've got it sort of down on paper saying I've improved by this much."

S26 "It proved to me that I had achieved something at the end of it."

U6 "I think it's a good idea - it shows that you've improved and that you have learnt something."

later

"I think when you know there's going to be a test you make sure you've done the work."

Q "What would you feel if you always had tests?"

U7 "I think it would give you a lot more motivation to actually learn something from the ward, and you'd think 'Oh yes, I've got a test, it's going towards my degree' or 'it's going towards my exam at the end of the year' and there would be a lot more incentive."
With the current move towards continuous assessment in nurse education these are encouraging comments. It should certainly prove quite easy to build the sort of strategy described in this project into a system of continuous assessment.

However as described in Chapter 7(6)1(ii) the teacher who is operating such a scheme may experience organisational difficulties including the administration of tests to learners whilst they are working in the clinical areas.

6.7 COLLECTION, CARE AND STORAGE OF MATERIALS.

**COLLECTION OF EVALUATION DATA**

Towards the end of a learner's allocation I would start negotiating with them about the day they would return the package. It was very important to plan this carefully in order to make sure everything was in order for the next group. Occasionally students would forget to bring back the package on the arranged date but overall they demonstrated a very mature and responsible attitude and returned the materials on time and in good order. If they made a special request to keep a particular item a little longer, perhaps over the weekend, this could usually be arranged as I had one or two spare programmed texts and articles.

As soon as the package was returned I would check all the materials, taking them out of the bag and making sure all the slides were in order and in good condition. Although this was rather time consuming I feel this is an essential part of the whole project and in fact of any distance learning programme. If the next group of students were offered materials which were muddled or with items missing it would be very aggravating and likely to inhibit motivation. During the whole time that the project was being monitored students took great care of the materials. Generally slides were returned to the folders in order and none were broken or damaged. None of the programmed texts or articles went missing although with constant use they did get rather worn over time.
As the package was being checked I removed the completed evaluation sheets from each of the tape/slide programmes and programmed texts and inserted new ones for the next group. Again learners had been conscientious about filling in these sheets. The main reason for not completing the forms was that they had not used that particular programme. Figure 6.2 gives details of the number of evaluation sheets which were completed. It can be seen from the figures that all the University students completed all the programmes. The student nurses, who had the package for the shortest amount of time, tended to work through the programmes in order, meaning that the number of forms completed fell off towards the end. Although the pupil nurses had the most time to use the materials they tended to jump about more in the way they worked through the package which is also represented by these figures.

Learners often wanted to keep their workbooks for a few days after they had finished their allocation in order to complete the work. I would collect the workbooks and the self report diaries at the same time and check with the learners the entries they had made in their diaries. All the workbooks were checked through to look at the standard of the work as well as the amount completed. I would send comments on the standard of the work to the students' personal tutor together with their test scores.

For research purposes I photocopied all the pages which the learners had used in their workbooks in order to make comparisons between different individuals and groups. I also kept strict records of the amount of work each learner completed. A breakdown of these records is given in Figure 6.3 to highlight the differences between the three groups.
<table>
<thead>
<tr>
<th>Programme</th>
<th>Pupil Nurses (n12) No of Sheets Returned</th>
<th>Student Nurses (n31) No of Sheets Returned</th>
<th>University Nurses (n7) No of Sheets Returned</th>
</tr>
</thead>
<tbody>
<tr>
<td>Programme I</td>
<td>8</td>
<td>24</td>
<td>7</td>
</tr>
<tr>
<td>Programme IIa</td>
<td>10</td>
<td>23</td>
<td>7</td>
</tr>
<tr>
<td>Programme IIb</td>
<td>10</td>
<td>21</td>
<td>7</td>
</tr>
<tr>
<td>Programme IIIa</td>
<td>10</td>
<td>21</td>
<td>7</td>
</tr>
<tr>
<td>Programme IIIb</td>
<td>9</td>
<td>20</td>
<td>7</td>
</tr>
<tr>
<td>Programme IIIc</td>
<td>8</td>
<td>15</td>
<td>7</td>
</tr>
<tr>
<td>Programme IV</td>
<td>9</td>
<td>14</td>
<td>7</td>
</tr>
</tbody>
</table>

Figure 6.2 Completion of Evaluation Sheets for Tape/Slide Programmes
<table>
<thead>
<tr>
<th>Section of Workbook</th>
<th>Completed by Pupils %</th>
<th>Completed by Students %</th>
<th>Completed by University Students %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Terminology</td>
<td>100%</td>
<td>93%</td>
<td>100%</td>
</tr>
<tr>
<td>Ward Staff</td>
<td>36%</td>
<td>23%</td>
<td>42%</td>
</tr>
<tr>
<td>Test One</td>
<td>81%</td>
<td>86%</td>
<td>100%</td>
</tr>
<tr>
<td>&quot; Two</td>
<td>72%</td>
<td>70%</td>
<td>100%</td>
</tr>
<tr>
<td>&quot; Three</td>
<td>72%</td>
<td>66%</td>
<td>100%</td>
</tr>
<tr>
<td>&quot; Four</td>
<td>72%</td>
<td>43%</td>
<td>100%</td>
</tr>
<tr>
<td>&quot; Five</td>
<td>72%</td>
<td>63%</td>
<td>100%</td>
</tr>
<tr>
<td>&quot; Post-Test</td>
<td>63%</td>
<td>46%</td>
<td>100%</td>
</tr>
<tr>
<td>Hip Joint Tests</td>
<td>81%</td>
<td>70%</td>
<td>100%</td>
</tr>
<tr>
<td>Workbook</td>
<td>54%</td>
<td>36%</td>
<td>71%</td>
</tr>
<tr>
<td>Fractures Tests</td>
<td>100%</td>
<td>86%</td>
<td>100%</td>
</tr>
<tr>
<td>Workbook</td>
<td>63%</td>
<td>63%</td>
<td>100%</td>
</tr>
<tr>
<td>Programme I. Follow Up</td>
<td>90%</td>
<td>65%</td>
<td>100%</td>
</tr>
<tr>
<td>Programme IIa Package</td>
<td>100%</td>
<td>86%</td>
<td>100%</td>
</tr>
<tr>
<td>&quot; Follow Up</td>
<td>63%</td>
<td>43%</td>
<td>100%</td>
</tr>
<tr>
<td>&quot; IIb Package</td>
<td>100%</td>
<td>83%</td>
<td>100%</td>
</tr>
<tr>
<td>&quot; Follow Up</td>
<td>63%</td>
<td>23%</td>
<td>100%</td>
</tr>
<tr>
<td>&quot; IIIa Package</td>
<td>90%</td>
<td>80%</td>
<td>100%</td>
</tr>
<tr>
<td>&quot; Follow Up</td>
<td>45%</td>
<td>16%</td>
<td>100%</td>
</tr>
<tr>
<td>&quot; IIIb Package</td>
<td>90%</td>
<td>73%</td>
<td>100%</td>
</tr>
<tr>
<td>&quot; IIIc Package</td>
<td>90%</td>
<td>53%</td>
<td>100%</td>
</tr>
<tr>
<td>&quot; Follow Up</td>
<td>45%</td>
<td>10%</td>
<td>100%</td>
</tr>
<tr>
<td>&quot; IV Package</td>
<td>72%</td>
<td>60%</td>
<td>100%</td>
</tr>
<tr>
<td>&quot; Follow Up</td>
<td>27%</td>
<td>6%</td>
<td>100%</td>
</tr>
<tr>
<td>Record of Patients %</td>
<td>100%</td>
<td>16%</td>
<td>100%</td>
</tr>
<tr>
<td>Average Amount of Work Completed by Each Group</td>
<td>n12</td>
<td>n31</td>
<td>n7</td>
</tr>
</tbody>
</table>

Figure 6.3 Amount of Work Completed by Three Groups of Learners
(See Appendix 4 for Details of Workbook/Study Guide)
It can be clearly seen that the University students completed considerably more of the work book than the other two groups and, apart from two sections (Ward Staff and Workbook on the Hip Joint), that they finished all the work in the book. On the whole the quality of their work was also better although several members of both the other two groups produced some particularly high quality work (P4, S3, S4, S6, S8, S10, S13, S16). It was the follow-up exercises attached to each of the tape/slide programmes which were omitted most frequently by the pupil and student nurses. The main reasons the students and pupils gave in their interviews for not completing these exercises was lack of time and lack of suitable patients on the wards (see Chapter 7(A)4(c)vi).

As they were only on the wards for four weeks it was the student nurses particularly who complained about lack of time. However as can be seen in Table 6.4 data obtained from the learners' self report diaries showed that on average the students spent twice as much time as the pupils each week working on the package and almost as much time as the University students.

Table 6.4 Hours Per Week Spent Working on the Learning Package

<table>
<thead>
<tr>
<th></th>
<th>Average</th>
<th>Range</th>
<th>n</th>
</tr>
</thead>
<tbody>
<tr>
<td>University</td>
<td>2.78 Hours</td>
<td>1.0 - 5.5 Hours</td>
<td>7</td>
</tr>
<tr>
<td>Students</td>
<td>2.43 Hours</td>
<td>0.5 - 4.5 Hours</td>
<td>30</td>
</tr>
<tr>
<td>Pupils</td>
<td>1.77 Hours</td>
<td>1.0 - 2.5 Hours</td>
<td>11</td>
</tr>
</tbody>
</table>

(Data from the self-report diaries also gave a very clear picture of the amount of time the students and pupils considered they had spent on new learning experiences during their orthopaedic allocation. This data substantiates the evidence from the literature (see Chapter 2.2 b(II)) and from the subjects I interviewed in the first phase of the study (see Chapter 4.5) concerning the small amount of teaching and learning which takes place in the clinical areas.)
Table 6.5 gives the average times which the subjects in the three groups spent on new learning experiences (apart from the package) while they were on duty during their orthopaedic allocation. These experiences include demonstrations or supervision of clinical practice, discussions and lectures or seminars (see Appendix 12 for details of the guidelines for completing the self-report diaries).

Table 6.5  Time Spent on New Learning Experiences During Orthopaedic Allocation (apart from the learning package)

<table>
<thead>
<tr>
<th></th>
<th>Average Time</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pupils (on night duty)</td>
<td>1.0 Hours</td>
<td>Nil to 3.00 Hours n12</td>
</tr>
<tr>
<td>Students</td>
<td>3.0 Hours</td>
<td>Nil to 11.35 Hours n30</td>
</tr>
<tr>
<td>University</td>
<td>8.0 Hours</td>
<td>2.20 to 15.20 Hours n 7</td>
</tr>
</tbody>
</table>

These figures particularly highlight the very small amount of teaching and learning which took place on night duty.

Once I had obtained the necessary data from the workbooks I returned them to the learners personally and told them about the comments I had sent to their tutors as well as discussing the work with them myself.

Very often I would carry out the final interview with the learner when they returned their workbooks and self report diaries as it was sometimes useful for them to refer to these documents while they were talking. If there was no time to carry out the final interview with the learner before they left the orthopaedic wards I would make arrangements to meet them as soon as possible during the next week. I would negotiate with the staff in charge of the appropriate department for the learners to be released for half to three-quarters of an hour. Many learners progressed to the Accident and Emergency Department who were very good at releasing students whenever possible, the best times being late mornings and mid-afternoons. Some learners did offer to give up their off-duty time to be interviewed.
6.8 INTERVIEWING THE LEARNERS

I carried out the interviews using the same arrangements and style which I described in Chapter 4.4. The one small difference was that I used a semi-structured interview schedule (see Appendix 20) together with an information sheet about each learner which I had collated from the comments they had made on their questionnaires (see Appendix 19). In this way I was able to follow up some of the learners' written statements during the interview.

The majority of students talked very freely and did not appear to mind being interviewed although naturally some were much more free and explicit with their comments than others. Sometimes they were under quite a time restraint from the pressures of clinical work and occasionally we were interrupted. Overall however, considering these interviews were carried out on the periphery of busy clinical areas it was usually possible to create a relaxed atmosphere and proceed in an acceptable manner.

6.9 USE OF LEARNING MATERIALS KEPT CENTRALLY

Very variable use was made of the learning materials which were kept centrally. A few students went into the Instructors' Room on their own initiative to look at the display board, charts or skeleton and a few of them did borrow extra tape/slide programmes on Anatomy and Physiology from the cupboard (see Fig 5.6(3)). Trained staff from both wards and all the teachers would use the display board to demonstrate various points to the learners (see Fig 5.4(1)). Some of the trained staff suggested that the Caramate machine should be brought to the ward area to show programmes to the students in groups. The latter occurred on one ward far more often than the other.

Although no exact record was kept of the number of times the Caramate machine was used in the ward areas staff were asked to book out the learning materials they borrowed on an individual basis from the central cupboard. Table 6.6
Table 6.6  Items Borrowed from Central Cupboard  
September 1983 to June 1985

<table>
<thead>
<tr>
<th>Date</th>
<th>Item Borrowed</th>
<th>Description of Borrower</th>
</tr>
</thead>
<tbody>
<tr>
<td>26.9.83</td>
<td>3 Anatomy Programmes</td>
<td>University Student</td>
</tr>
<tr>
<td>5.10.83</td>
<td>6 Anatomy Programmes</td>
<td>University Student</td>
</tr>
<tr>
<td>6.10.83</td>
<td>4 Anatomy Programmes</td>
<td>University Student</td>
</tr>
<tr>
<td>15.10.83</td>
<td>3 Anatomy Programmes</td>
<td>Student Nurse</td>
</tr>
<tr>
<td>3.12.83</td>
<td>4 Anatomy Programmes</td>
<td>Student Nurse</td>
</tr>
<tr>
<td>16.1.84</td>
<td>Stryker Bed II Programme</td>
<td>Clinical Teacher</td>
</tr>
<tr>
<td>20.2.84</td>
<td>1 Anatomy Programme</td>
<td>University Student</td>
</tr>
<tr>
<td>20.3.84</td>
<td>4 Anatomy Programmes</td>
<td>University Student</td>
</tr>
<tr>
<td>24.5.84</td>
<td>Caramate Machine</td>
<td>Clinical Teacher</td>
</tr>
<tr>
<td>29.8.84</td>
<td>2 Anatomy Programmes</td>
<td>Student Nurse</td>
</tr>
<tr>
<td>18.2.85</td>
<td>Programme II a II b</td>
<td>University Lecturer</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(Nursing)</td>
</tr>
<tr>
<td>30.3.85</td>
<td>1 Anatomy Programme</td>
<td>Student Nurse</td>
</tr>
<tr>
<td>18.6.85</td>
<td>5 Anatomy Programmes</td>
<td>Student Nurse</td>
</tr>
</tbody>
</table>
gives details of the items which were borrowed between September 1983 and June 1985. Although the numbers are very small it is interesting to note that the University students made the most use of this facility and that the pupil nurses did not use it at all.

6.10 ISSUE OF MATERIALS TO QUALIFIED STAFF.

INTERVIEWING QUALIFIED STAFF.

As new trained staff came to the wards either myself or the Clinical Teacher would explain the project to them. They would be issued with a workbook/study guide so that they knew what the students had to do as well as for their own benefit. When there was a package spare this would be issued to any of the qualified staff who wanted to use it. It took a long time to work through the qualified staff as there were approx. 30 altogether and there was not very often a spare package. As there is quite a high turnover rate of qualified staff this has become an on-going process and a careful record is kept so that no-one is omitted.

I interviewed a representative proportion of qualified staff concerning the whole project. In total the following were interviewed:-

Nurse Tutors Two, T1 and T2
Clinical Teachers Three, CT1, CT2, CT3
Clinical Nurse Specialist One, CNS1
Ward Sisters Two, WS1, WS2
Staff Nurses Five, SN1, 2, 3, 4 and 5
State Enrolled Nurses Five, SEN1, 2, 3, 4 and 5

Clinical Teacher 2 was interviewed twice, both before and after she had been responsible for running the project herself.

Once again I used a semi-structured interview schedule (see Appendix 21) although this was adapted considerably to suit each individual.
The majority of the qualified staff were very interested and enthusiastic about the project and were pleased to be offered the learning package. We (the nurse teachers) have therefore started negotiations with the Clinical Nurse Specialist to include a session with the Nurse Tutor or the Clinical Teacher into the orientation programme of newly appointed staff to explain the project and issue learning materials when they are available. The qualified staff who had seen the materials suggested that an ideal time to be issued with the package would be about a month after they started on the ward.

Q "Why do you think it is too soon to be issued with the learning package as soon as you start on the ward?"

SEN5 "Well it's just nice to settle into the ward and get the idea of things and then go on with your package and go into more detail."

Later

"After about a month you've settled in a bit, you don't feel quite so lost and you've got a bit of an idea to work on then."

SN4 "I find it usually takes me about a month to sort of settle in and find my feet and that sort of thing, and at the beginning I suppose I'm just a bit nervous. Actually if you start reading straightaway it all becomes a bit much, but if you actually do it in practice and then read about it as well, because you know, we're usually sort of fairly supervised at the beginning, it's just when people ask you things and you're new and you feel a bit silly."

Q "Several people have said that they feel after about a month?"

SN4 "Yes, I think that would be best."

To date the initial orientation programme for newly appointed staff from the clinical aspect has been the responsibility of the Clinical Nurse Specialist. However I feel it would be one way of bringing service and education closer together if this were a shared responsibility. A project such as the learning package certainly acts as a catalyst in such an enterprise. It is something tangible that the educationalist can offer the practitioner which is always
available and does not depend on the presence of a teacher. It is something which should help to give newly appointed staff more confidence both to teach and to practice. It is something which should raise awareness concerning correct practice and therefore enhance nursing care. All these points will be discussed in detail in Chapter 7 on data analysis.

The fact that trained staff are using the learning materials also means that they are more likely to add to them or change them as new techniques and ideas come forward. The clinical teacher and newly appointed ward sister are currently working on a new programme on care of patients in plasters and splints using photographs which I took a year ago.

So as time goes on, the learning package and the materials kept centrally are being referred to and used to a greater extent by the qualified staff as more of them are made aware of what is available.

Nevertheless with the turnover of staff being reasonably frequent the educationalists cannot be complacent.

6.11 HANDOVER OF THE PROJECT TO LOCAL STAFF

Right from the beginning the intention was to continue using the learning package on the orthopaedic wards after the period of research was completed. The materials had taken a considerable amount of time and money to produce and their content should be relevant for some years at least. I was on a fixed term contract to carry out the research work and would therefore be moving on when it was completed. The teaching staff responsible for the Trauma Unit were therefore gradually encouraged to get involved in the organisation and running of the project.

The Clinical Teacher who started on the Orthopaedic Wards during the same week that we held the exhibition showed a lot of interest and was very supportive ever since she arrived. She was willing to get involved in running the project and
saw it as being complementary to her own work. We had several discussions about ways in which the content of the package would fit into her own teaching programme and agreed that she would concentrate on the subjects which were not included.

The tutor who was responsible for the orthopaedic areas was unfortunately off sick for almost the whole time the project was being researched from October 1983 to August 1984. After his return, although he was very supportive and encouraged all the students and staff to take part in the project, he did not get as involved as the Clinical Teacher due to his lecturing duties in the School of Nursing.

In December 1984 both the Tutor and the Clinical Tutor were off sick for over a month and once again I took over the running of the project.

Although this was perhaps an unusual situation which would only occur very rarely, it did highlight the importance of the caretaking role of the teacher in distance learning schemes. When as many learning materials as this are involved a scheme can soon become disorganised if it is run from an area on the periphery of the central educational institution, in this case the clinical areas, if those who are responsible are away for any length of time. In this case I was able to step into the role but this episode did make me realise the need for contingency plans. There was a definite need to educate a relief staff who could take over at short notice.

Since the regular teachers returned they have negotiated with a staff nurse on each ward who would be able to take over the running of the project in an emergency. To date this has not yet been put to the test.

It was discussed whether a clinical teacher from another area should be involved but it was decided that we would get a greater commitment from the clinical staff if they had definite responsibilities for the learning in their own areas. This line of thinking fits in with the original concept of the use of proctors in the Keller Plan. (Keller, 1968)
Looking back to the implementation of the project in September 1983, by far the majority of the key figures in the Clinical Areas, the Nurse Education Centre and the University have either been off sick for considerable periods of time or they have left and been replaced by a new member of staff.

I do not mean to imply that this is particularly unusual but only to stress that this changing pattern of senior staff adds one more problem to the implementation of a new learning method. There is a constant need to check that everyone concerned is quite clear what is happening and that everything runs smoothly.

Since March 1985 I have not been directly involved in the day to day running of the project although I do visit the hospital once or twice a week to discuss progress and problems with both educational and clinical staff. From the research point of view I have adopted the role of a non-participant observer. Not an easy one after four years of involvement!

6.12 SUMMARY

This chapter describes how this project was implemented and organised. Emphasis is placed on the importance of preparing and educating all those who are involved well in advance of the start of such an enterprise. In this case a study day on distance learning/learning packages was held in June 1982 and an exhibition of the materials which were to be used in the project in August 1983. Between these two dates a great deal of discussion and debate went on between myself and those who would take part in the project.

A step by step account is given of the organisation of the project between September 1983 and December 1984. This includes preparing the learners before they used the learning materials, the administration of the pre-and post-tests, the allocation, care and storage of learning materials
as well as supporting and monitoring the learners whilst they were using the package. Mention is also made of the allocation of the learning packages to the qualified staff and the eventual handover of the running of the project to the local teaching staff.

The research techniques which were used during this period as well as some of the analysed data relating to testing and the amount the learners used the various materials are also described and discussed.
SELF-DIRECTED LEARNING IN
NURSE EDUCATION:

A CASE STUDY ON AN ORTHOPAEDIC WARD

BY

SHIRLEY ANN WICKENDEN

A THESIS SUBMITTED TO THE UNIVERSITY OF SURREY
IN PARTIAL FULFILMENT OF THE REQUIREMENTS
FOR THE DEGREE OF DOCTOR OF PHILOSOPHY

1988
ABSTRACT

The study reported in this thesis is concerned with the education of basic general nurses whilst they are working in the clinical setting. Set against a system where the position of the student is essentially that of an apprentice, previous studies have demonstrated that theory is often divorced from practice and any teaching which does take place is frequently sparse and erratic.

In an attempt to alleviate this situation, this study examines the circumstances surrounding the introduction of a scheme of self-directed learning (in the form of learning packages) into two orthopaedic wards in a District General Hospital.

Using a case study approach to educational research, the techniques of illuminative evaluation are used to monitor the project in all its phases (planning, production and implementation). Throughout the study the effects of this educational innovation are viewed from three main perspectives:-

i) the student and pupil nurses; ii) the permanent, qualified staff on the wards; iii) the nurse teachers.

Findings from the study demonstrate that although the planning and production of learning packages which are appropriate for use in clinical areas is both time-consuming and initially expensive, their use in promoting learning and in helping students (and pupils) from a wide range of educational abilities to apply theory to practice is effective.

Since the learning package was introduced, i) the students' motivation to learn increased, their study habits improved and they became generally more questioning; ii) the quality of teaching by both the qualified ward staff and the nurse teachers improved in a variety of ways. The total effect was therefore one of a generally enhanced teaching/learning milieu within the clinical areas concerned. There was some definite evidence
to suggest that this change of circumstances had a beneficial effect on patient care.

The need for a "partnership approach" to nurse education between the nurse teachers and the clinical staff was highlighted by the findings from every stage of the study, as was the changing role of the teacher who employs methods of self-directed/distance learning.

In the last chapter of the thesis certain conclusions are drawn from these findings and they are examined alongside those from other studies which have investigated the teaching and learning of nurses in the clinical areas. The external validity (generalizability) of small, predominantly qualitative studies of this nature is also discussed. Finally several recommendations are made and suggestions are put forward for further research in similar areas.
DEDICATED WITH LOVE
TO MY MOTHER
DORIS MARY WICKENDEN

AND TO THE MEMORY OF
MY FATHER
HAROLD WICKENDEN
ACKNOWLEDGEMENTS

There are many people to whom I wish to record my sincere thanks for all the help and support I have received with this research project.

Firstly my supervisor, Dr John Gilbert, whose guidance and encouragement I could rely upon at all times.

The research methods course organised by Dr Maureen Pope has proved a valuable foundation to the planning and process of my work.

Many of the staff in the Audio-Visual Aids Department at the University of Surrey helped me with the production of the tape-slide programmes and other media used in this study. I would especially like to thank Steve Heritage, Kevin Shaughnessy and Brian Johnson.

The tremendous co-operation and goodwill shown by the many staff and patients in the clinical setting who took part in this study deserves special thanks. I am particularly indebted to Sue Harris and Pauline McKintosh for their invaluable contributions.

As well as giving encouragement and making valuable suggestions several friends and colleagues have made practical contributions to my work. Jan Williams was a great help in assembling the contents of the learning packages and in helping with the exhibition. A special thank you goes to Annette Stannett for her constant support and practical help during the last few weeks before this thesis was bound.

The typing of the transcripts from the interviews was painstakingly undertaken by Ken Hounsome and Christine Howard. This thesis was typed most efficiently and cheerfully by Penny Briggs. To all three I owe my thanks.

The help given by Audrey Nellist and Caroline Sawers with the retrieval of information at all stages of this project has also been much appreciated.
As none of this work would have been possible without the appropriate funding I should like to thank the following for their help with all the administrative arrangements: Professor Christopher Armstrong-Esther, Peter Dunham, Professor David James, Sue Rossler and Clive Turner.

Finally I am grateful to my mother for her unending encouragement, cheerfulness and patience during the time I have been completing this work.
<table>
<thead>
<tr>
<th>TABLE OF CONTENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>ABSTRACT</td>
</tr>
<tr>
<td>DEDICATION</td>
</tr>
<tr>
<td>ACKNOWLEDGEMENTS</td>
</tr>
<tr>
<td>TABLE OF CONTENTS</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CHAPTER ONE</th>
<th>INTRODUCTION AND SUMMARY OF CHAPTERS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.1 Introduction</td>
<td>1.1</td>
</tr>
<tr>
<td>1.2 Summary of Chapters</td>
<td>1.1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CHAPTER TWO</th>
<th>IDENTIFICATION OF THE PROBLEM AND LITERATURE REVIEWS</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.1 Identification of the Problem</td>
<td>2.1</td>
</tr>
<tr>
<td>2.2 Literature Review - Nurse Training and Education</td>
<td>2.10</td>
</tr>
<tr>
<td>2.2a Historical Development</td>
<td>2.10</td>
</tr>
<tr>
<td>a(i) The Preparation and Training of the Registered Nurse</td>
<td>2.11</td>
</tr>
<tr>
<td>a(ii) The Preparation and Training of the State Enrolled Nurse</td>
<td>2.17</td>
</tr>
<tr>
<td>a(iii) The Preparation and Training of Teachers of Nurses</td>
<td>2.21</td>
</tr>
<tr>
<td>a(iv) Degree Courses for Nurses</td>
<td>2.28</td>
</tr>
<tr>
<td>a(v) The Current Situation</td>
<td>2.31</td>
</tr>
<tr>
<td>2.2b Research Relevant to Teaching and Learning in the Clinical Situation. Integration of Theory and Practice</td>
<td>2.39</td>
</tr>
<tr>
<td>b(I) What is &quot;taught&quot; and what is &quot;practised&quot;</td>
<td>2.40</td>
</tr>
<tr>
<td>b(II) Studies which highlight poor teaching and learning on the ward areas</td>
<td>2.44</td>
</tr>
<tr>
<td>b(III) Studies which relate to the teaching role of</td>
<td></td>
</tr>
<tr>
<td>a) The Ward Sister</td>
<td>2.62</td>
</tr>
<tr>
<td>b) The Nursing Officer/ Clinical Nurse Specialist</td>
<td>2.65</td>
</tr>
<tr>
<td>c) The Teachers of Nursing</td>
<td>2.67</td>
</tr>
<tr>
<td>b(IV) Action Research which has aimed at improving the relationship between theory and practice in the Clinical Areas</td>
<td>2.70</td>
</tr>
<tr>
<td>CHAPTER THREE</td>
<td>RESEARCH METHODOLOGY: APPROACH, METHODS AND TECHNIQUES</td>
</tr>
<tr>
<td>---------------</td>
<td>------------------------------------------------------</td>
</tr>
<tr>
<td>3.1 Introduction</td>
<td>3.1</td>
</tr>
<tr>
<td>3.2 Paradigms in Educational Research</td>
<td>3.1</td>
</tr>
<tr>
<td>3.3 The Research Method Which was Used for this Study</td>
<td>3.8</td>
</tr>
<tr>
<td>3.4 Research Techniques used at each stage (phase) of this study</td>
<td>3.11</td>
</tr>
<tr>
<td>3.5 Analysing the Data</td>
<td>3.17</td>
</tr>
<tr>
<td>3.6 The Teacher as Producer/Evaluator (Researcher)</td>
<td>3.22</td>
</tr>
<tr>
<td>3.7 Summary</td>
<td>3.25</td>
</tr>
</tbody>
</table>
## CHAPTER FOUR
### PLANNING AND SETTING UP THE PROJECT.
#### 1981 to 1982

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.1 Introduction</td>
<td>4.1</td>
</tr>
<tr>
<td>4.2 Choice of Clinical Areas</td>
<td>4.1</td>
</tr>
<tr>
<td>4.3 Negotiating a Contract</td>
<td>4.9</td>
</tr>
<tr>
<td>4.4 Defining Clinical Learning Objectives</td>
<td></td>
</tr>
<tr>
<td>a) Knowledge</td>
<td>4.16</td>
</tr>
<tr>
<td>b) Manipulative Skills</td>
<td>4.29</td>
</tr>
<tr>
<td>c) Attitudes and Interpersonal Skills</td>
<td>4.41</td>
</tr>
<tr>
<td>4.5 Current Methods Used to Teach Student and Pupil Nurses Allocated to the Orthopaedic Wards. Official and Unofficial Sources of Learning</td>
<td>4.56</td>
</tr>
<tr>
<td>4.6 Methods of Improving the Present Teaching/Learning Situation.</td>
<td></td>
</tr>
<tr>
<td>Opinions Concerning the Introduction of a Scheme of Self-Directed Learning Materials</td>
<td>4.71</td>
</tr>
<tr>
<td>4.7 Monitoring Ready Made Materials</td>
<td>4.80</td>
</tr>
<tr>
<td>4.8 Budgetting. Finances and Resources. Purchasing Readymade Materials</td>
<td>4.98</td>
</tr>
<tr>
<td>4.9 Pilot Study. July - October 1982</td>
<td>4.102</td>
</tr>
</tbody>
</table>

## CHAPTER FIVE
### PRODUCTION OF NEW LEARNING MATERIALS.
#### PUTTING THE PACKAGE TOGETHER

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.1 Introduction</td>
<td>5.1</td>
</tr>
<tr>
<td>5.2 Reasons for Choice of Content and Media</td>
<td>5.1</td>
</tr>
<tr>
<td>5.3 Producing the Tape/Slide Programmes</td>
<td>5.3</td>
</tr>
<tr>
<td>a) Acquiring the skills.</td>
<td>5.3</td>
</tr>
<tr>
<td>Laying the Foundations.</td>
<td></td>
</tr>
<tr>
<td>b) Planning the Programmes</td>
<td>5.3</td>
</tr>
<tr>
<td>c) Taking the Photographs</td>
<td>5.6</td>
</tr>
<tr>
<td>d) Writing and Recording the Script</td>
<td>5.13</td>
</tr>
<tr>
<td>5.4 Display Boards</td>
<td>5.16</td>
</tr>
<tr>
<td>5.5 Selection of Articles</td>
<td>5.20</td>
</tr>
<tr>
<td>5.6 Putting the Learning Package Together</td>
<td>5.20</td>
</tr>
</tbody>
</table>
### CHAPTER SIX
**IMPLEMENTATION AND ORGANISATION OF THE MAIN PROJECT**

<table>
<thead>
<tr>
<th>Section</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>6.1</td>
<td>Preparation of the Trained Staff</td>
<td>6.1</td>
</tr>
<tr>
<td>6.2</td>
<td>Preparation of the Students</td>
<td>6.4</td>
</tr>
<tr>
<td>6.3</td>
<td>Pre-Testing</td>
<td>6.5</td>
</tr>
<tr>
<td>6.4</td>
<td>Allocation of the Learning Package</td>
<td>6.5</td>
</tr>
<tr>
<td>6.5</td>
<td>Supporting/Visiting Students and Pupils While They Were Using the Learning Package. Monitoring Their Progress and Opinions</td>
<td>6.7</td>
</tr>
<tr>
<td>6.6</td>
<td>Post-Testing</td>
<td>6.7</td>
</tr>
<tr>
<td>6.7</td>
<td>Collection, Care and Storage of Materials. Collection of Evaluation Data</td>
<td>6.11</td>
</tr>
<tr>
<td>6.8</td>
<td>Interviewing the Learners</td>
<td>6.17</td>
</tr>
<tr>
<td>6.9</td>
<td>Use of Learning Materials Kept Centrally</td>
<td>6.17</td>
</tr>
<tr>
<td>6.10</td>
<td>Issue of Materials to Qualified Staff. Interviewing Qualified Staff</td>
<td>6.19</td>
</tr>
<tr>
<td>6.11</td>
<td>Handover of the Project to Local Staff</td>
<td>6.21</td>
</tr>
<tr>
<td>6.12</td>
<td>Summary</td>
<td>6.23</td>
</tr>
</tbody>
</table>

### CHAPTER SEVEN
**DATA ANALYSIS FROM THE MAIN STUDY.**

**THE EFFECT OF USING DISTANCE LEARNING METHODS FOR STUDENT AND PUPIL NURSES WHEN THEY ARE ALLOCATED TO THE CLINICAL AREAS (ORTHOPAEDIC WARDS)**

**Introduction**

7(A) The Perspective of the Student and Pupil Nurses

7(A)1 Approach to the Project

   a) Age
b) Resident/Non Resident 7.3

c) General Educational Attainment 7.4

d) Private Study Habits 7.5

e) Feelings About Compulsory Work Assignments During Clinical Allocations 7.8

f) Previous Experience with Distance Learning 7.12

g) Level of Satisfaction with Nurse Training/Education 7.13

h) Allocation to the Orthopaedic Wards 7.30

i) Summary 7.32

7(A)2 General Feelings Towards the Use of The Learning Package 7.35

a) Positive Feelings 7.35

b) Negative Feelings 7.46

c) Summary 7.62

7(A)3 Change in Study Patterns 7.65

7(A)4 The Learner's Evaluation of the Individual Components of the Package, Workbooks, Types of Media Used, Testing 7.69

a) The Workbook/Study Guide 7.69

b) The Self-Instructional and Programmed Texts 7.71

c) The Tape Slide Programmes 7.90

i) The Learning Objectives 7.99

ii) Student's General Impressions 7.102

iii) The Narration 7.108

iv) The Illustrations 7.112

v) The Activities for the Students 7.118

vi) The Follow-up Exercises 7.122

d) The Articles 7.127

e) The Pre and Post Tests 7.132

7(A)5 The Effects of Visits from a Teacher 7.134

7(A)6 The Relevance/Application of the Information in the Learning Package to the Clinical Work on the Ward 7.143
7(B) The Perspective of the Permanent Ward Staff
1) The Production Phase
2) The Induction Stage
3) General Impressions of the Learning Package
   i) Types of Media Used
   ii) The Content
   iii) The General Organisation Involved in Running the Project
4) The Effect of the Learning Package on the Teaching Role of the Qualified Nursing Staff
5) The Use of the Learning Package for In-Service Education of the Qualified Staff

7(C) The Perspective of the Teachers
1) The Changing Role of the Teacher
   7(C)1(i) In relation to their teaching
   (ii) In relation to the organisation and administration of the learning package
2) The Use of the Same Learning Package by Different Groups
3) The Cost of the Project
4) Other Areas Where This Method of Learning Would be Particularly Helpful

CHAPTER EIGHT REVIEW OF THE STUDY, SUMMARY OF THE FINDINGS
8.1 Introduction
8.2 The Situation Before the Introduction of Self-Directed Learning
8.3 The Planning Stage
8.4 Production of the Learning Materials
8.5 The Implementation and Organisation of the Main Project
8.6 General Feelings About the Use of Learning Packages, Distance Learning, Individualised Learning in the Clinical Areas
# APPENDICES

<table>
<thead>
<tr>
<th></th>
<th></th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Student Nurse Training Programme</td>
<td>A.1</td>
</tr>
<tr>
<td></td>
<td>Unit 5. Trauma</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Pupil Nurse Training Programme</td>
<td>A.3</td>
</tr>
<tr>
<td>3</td>
<td>Interview Schedules Used in the Preliminary Phase of the Project</td>
<td>A.5</td>
</tr>
<tr>
<td>4</td>
<td>Orthopaedic Wards. Study Guide/Work Book</td>
<td>A.7</td>
</tr>
<tr>
<td>5</td>
<td>Individualised Learning Materials for Student and Pupil Nurses. Teachers' Guide</td>
<td>A.72</td>
</tr>
<tr>
<td>6</td>
<td>Firms and Institutions who were approached for information about audio-visual aids</td>
<td>A.88</td>
</tr>
<tr>
<td>7</td>
<td>Firms and organisations who provide information on hardware and packaging who were approached for their literature</td>
<td>A.94</td>
</tr>
<tr>
<td>8</td>
<td>Firms who produce orthopaedic equipment, implants and theatre instruments who were approached for literature and educational programmes</td>
<td>A.96</td>
</tr>
<tr>
<td>9</td>
<td>Application to D.H.S.S. for Research Grant</td>
<td>A.98</td>
</tr>
<tr>
<td>10</td>
<td>Details of Funding for Buying Equipment and Producing Learning Materials for Individualised Learning Package</td>
<td>A.99</td>
</tr>
<tr>
<td>11</td>
<td>Equipment on Loan</td>
<td>A.102</td>
</tr>
<tr>
<td>12</td>
<td>Self Report Diaries</td>
<td>A.103</td>
</tr>
<tr>
<td>13</td>
<td>Evaluation Sheets used in the Pilot Study</td>
<td>A.104</td>
</tr>
<tr>
<td>14</td>
<td>Evaluation Sheets used in the Main Study</td>
<td>A.108</td>
</tr>
<tr>
<td>15</td>
<td>Consent to Photographs</td>
<td>A.114</td>
</tr>
<tr>
<td>16</td>
<td>Example of a Script for a Tape/Slide Programme</td>
<td>A.115</td>
</tr>
<tr>
<td>17</td>
<td>Aspects of Sick Children Nursing: A Learning Package</td>
<td>A.127</td>
</tr>
<tr>
<td>18</td>
<td>Questionnaire used in the Main Study</td>
<td>A.128</td>
</tr>
<tr>
<td>19</td>
<td>Follow up from Questionnaire. Used as a basis for questions during the interviews</td>
<td>A.136</td>
</tr>
<tr>
<td>20</td>
<td>Interview Schedule (semi-structured). For Student and Pupil Nurses</td>
<td>A.139</td>
</tr>
</tbody>
</table>
21. Interview Schedule (semi-structured). For Trained Nurses/Para-Medical/Medical Staff
   A.142

22. Data Analysis. Categories which emerged from the semi-structured interviews with 50 learner nurses in Phase IV of the Study
   A.144

23. Data Analysis. Categories which emerged from the semi-structured interviews with qualified staff
   A.147

24. Evaluation of Tape/Slide Programmes
   A.149

BIBLIOGRAPHY

LIST OF TABLES

2.1 Numbers entering basic nurse training in England (Initial entry or re-entry) 2.2
2.2 Hours per week recommended and spent teaching in a patient environment 2.6
2.3 Intake of pupil nurses for the general register. Years ending March 31st England and Wales 2.32
2.4 Nurse Teachers by Graduate Status 2.38
2.5 Reason for discontent mentioned by withdrawing candidates 2.43
2.6 Table to illustrate the different terms which were used in a variety of studies which examined the characteristics which distinguish between wards where teaching and learning is "good" and where it is "poor" 2.50
2.7 Time Nursing Officers spent teaching learners during one week 2.66
3.4(1) Self-directed Learning in Nurse Education A Case Study on an Orthopaedic Ward. The Main Phases of the Project 3.12
4.4 Analysis of knowledge Component Mentioned in Interviews 4.17
4.5 Objectives for student and pupil nurses on completion of their clinical experience on the orthopaedic wards (A). Cognitive Domain 4.27
4.6 Analysis of Manipulative Skills Mentioned in Interviews 4.30
<table>
<thead>
<tr>
<th>Section</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.7</td>
<td>Nurses experiencing patient handling incidents leading to back pain per 1,000 whole time equivalents per year</td>
</tr>
<tr>
<td>4.8</td>
<td>Objectives for student and pupil nurses on completion of their clinical experience on the orthopaedic wards (B) Psychomotor Domain</td>
</tr>
<tr>
<td>4.9</td>
<td>Analysis of Social Skills and Attitudes Mentioned in Interviews</td>
</tr>
<tr>
<td>4.10</td>
<td>Objectives for student and pupil nurses on completion of their clinical experience on the orthopaedic wards (C) Affective Domain</td>
</tr>
<tr>
<td>4.11</td>
<td>Staffing Levels on the Orthopaedic Wards During the Time of the Preliminary Interviews</td>
</tr>
<tr>
<td>4.11(b)</td>
<td>Overall Costing of Research Project</td>
</tr>
<tr>
<td>4.12</td>
<td>Average amount of study per week in their off-duty times completed by nurse learners in the Pilot Study</td>
</tr>
<tr>
<td>4.13</td>
<td>Type and duration of new learning experiences for student and pupil nurses on the pilot study. Information taken from their self report diaries</td>
</tr>
<tr>
<td>6.1</td>
<td>Test Scores of Students Who Scored Better in Their Pre-Test Than They Did in Post-Test A</td>
</tr>
<tr>
<td>6.2</td>
<td>Completion of Evaluation Sheets for Tape/Slide Programmes</td>
</tr>
<tr>
<td>6.3</td>
<td>Amount of Work Completed by Three Groups of Learners</td>
</tr>
<tr>
<td>6.4</td>
<td>Hours Per Week Spent Working on the Learning Package</td>
</tr>
<tr>
<td>6.5</td>
<td>Time Spent on New Learning Experiences During Orthopaedic Allocation (apart from learning package)</td>
</tr>
<tr>
<td>6.6</td>
<td>Items Borrowed from Central Cupboard September 1983 to June 1985</td>
</tr>
<tr>
<td>7(A)1(i)</td>
<td>Age Range of Student and Pupil Nurses Participating in the Project</td>
</tr>
<tr>
<td>7(A)1(ii)</td>
<td>Living Arrangements for Student and Pupil Nurses Who Participated in the Project</td>
</tr>
</tbody>
</table>
7(A)1(iii) Numbers of 'O' Levels Obtained by Student and Pupil Nurses Who Participated in the Project 7.4

7(A)1(iv) Number of 'A' Levels Obtained by the Student and Pupil Nurses Who Participated in the Project 7.5

7(A)1(v) Table to Illustrate the Average Number of Hours of Private Study Worked by Members of Each Group During Their Last Year at School/College 7.5

7(A)1(vi) Table to Illustrate the Average Number of Hours of Private Study Worked by Members of Each Group at Weekends During Their Last Year at School/College 7.6

7(A)1(vii) Table to Illustrate the Average Number of Hours of Private Study Worked by Members of Each Group When They Are Working in the Clinical Situation (Wards, Departments, Community) 7.6

7(A)1(viii) Response to the question: "When you are studying, do you use your own textbooks?" 7.7

7(A)1(ix) Answer to the question: "Do you subscribe to a nursing or other professional journal?" 7.8

7(A)1(x) Answer to the question: "Have you read a nursing or other professional journal?" 7.8

7(A)1(xi) The number of participants in each group who have previously used any methods of distance learning 7.13

7(A)2(i) Positive Feelings Which Were Expressed by the Student and Pupil Nurses After Using the Learning Package 7.36

7(A)2(ii) Negative Feelings Which Were Expressed by the Student and Pupil Nurses After Using the Learning Package 7.47

7(A)2(iii) Overview of the Quantitative Data Collected from the First (Group A) and Third (Group C) Groups of Student and Pupil Nurses Who Used the Orthopaedic Learning Package 7.48

7(A)2(iv) Overview of the Quantitative Data Collected From the Second Group (Group B) of Student Nurses Who Used the Orthopaedic Learning Package 7.49

7(A)2(v) Overview of the Quantitative Data Collected From the Pupil Nurses Who Used the Orthopaedic Package 7.50
7(A)2(vi) Overview of the Quantitative Data Collected From The University Students Who Used the Orthopaedic Learning Package

7(A)2(vii) Summary of Quantitative Data from Tables 7(A)2(iii) - (vi)

7(A)2(4(i) "Anatomy and Physiology. A Self-Instructional Course. Locomotor System and Special Senses" Evaluation by University Students

7(A)4(ii) As above Evaluation by Pupil Nurses

7(A)4(iii) As above Evaluation by Student Nurses

7(A)4(iv) Response Rate for Completion of Evaluation Sheets for The Programmed Texts

7(A)4(v) Synopsis of Answers given by the University students to Questions on the Evaluation Sheets for The Programmed Texts

7(A)4(vi) Synopsis of Answers given by the Pupil Nurses to Questions on the Evaluation Sheets for The Programmed Texts

7(A)4(vii). Synopsis of Answers given by the Student Nurses to Questions on the Evaluation Sheets for The Programmed Texts

7(A)4(viii) Response Rate for the Completion of the Evaluation Sheets for the Tape/Slide Programmes

7(A)4(ix) Analysis of the Evaluation Sheets on the Tape/Slide Programmes

7(A)4(x) Results from Question 6(c) From The Evaluation Sheets for Programme Three (b)

7(A)4(xi) Results from Question 6(b) From the Evaluation Sheets for Programme Three (c)

7(A)4(xii) Results from Evaluation Sheets for the Tape/Slide Programmes Illustrating the Diversity of Answers to Question 7(c)

7(A)4(xiii) The Percentage of Learners in Each Group Who Completed the Follow-Up Exercises to the Tape/Slide Programmes and the Record of Patients With Orthopaedic Implants

7(A)4(xiv) The Number of Learners In Each Group Who Read the Articles and the Amount of Time Which Each Group Spent
LIST OF FIGURES

2.8 Essential differences between control and experimental groups course on care of patients with gastro-intestinal disease 2.71

2.9 A diagram to show progression from teacher-centred to student-centred teaching and learning strategies 2.92

3.1 Paradigms in Educational Research 3.7

3.5(1) Components of data analysis: Flow Model (Miles and Huberman (1984)) 3.20

3.5(2) Components of data analysis: Interactive Model (Miles and Huberman. (1984)) 3.21

4.1 Pupil Nurse Training Programme 4.5

4.2 Student Nurse Training Programme 4.6

4.3 BSc in Nursing Studies Course. Distribution of Main Block of Clinical Experience 4.7

5.3(c)1 An empty ward converted into a studio to photograph the Stryker wedge turning frame 5.11

5.3(c)2 Detailed shot of the base of the Stryker wedge turning frame to illustrate the problem of reflection on the metal 5.11

5.3(c)3 Dulling spray had to be used on the hip prosthesis to reduce the shine on the metal 5.12

5.3(c)4 Example of some of the art work for the diagrams 5.12

5.4(1) Display of common orthopaedic implants on a board in the Instructors' Room between the two wards 5.18

5.6(1) The complete contents of one Learning Package together with the holdall used for their transportation 5.18
5.5(1) Each article is numbered to correlate with the various items on the display board 5.19
5.6(2) Earphones are provided for use in the ward at night 5.22
5.6(3) Additional Tape/Slide Programmes and Anatomical Models are stored in a cupboard in the Instructors' Room 5.22
7(A)1(xii) Satisfaction/Dissatisfaction level in relation to nurse training/education before commencing the project (Pupil Nurses and University Students) 7.15
7(A)1(xiii) Satisfaction/Dissatisfaction level in relation to nurse training/education before commencing the project 7.16
7(A)1(xiv) Representation of the allocation of Student Nurses to the Wards and Departments Used During Their Trauma Experience 7.30
7(A)1(xv) Representation of the allocation of Pupil Nurses to the Wards and Departments Used During Their Trauma Experience 7.31
7(A)1(xvi) Representation of a six week allocation to the Orthopaedic Wards for one of the University Students 7.32
9.1 Model to Illustrate The Groups Who Were Involved At Each Stage of the Project 9.5
9.2 Model to Illustrate The Effect Of The Learning Package on the Teaching and Learning in the Clinical Areas 9.13
9.4 Model to Illustrate The Potential for Improving Patient Care by Gearing Nurse Education (in the form of a learning package) to the Specific Needs of the Patient 9.31
9.5 Model to Represent the Ideal Learning Environment for Student Nurses in the Clinical Areas Based on Recent Research Studies 1980-1987 9.38
INTRODUCTION

"...there is no absolute and agreed upon 'reality' that has an objective 'truth'. Rather there are numerous different perspectives, many of which - in incontentious realms - enjoy consensual validity, but others which are not shared at all widely."

Parlett (1981) (p.224)

A great deal of data has been generated by the second phase of this study (the introduction of learning packages for use by student and pupil nurses while they are working on orthopaedic wards). Some of this data has already been referred to in Chapter 6 (6.5, 6.6, 6.7, 6.9 and 6.10). In this chapter the findings of the study will be viewed from three main perspectives in order to represent the views of the three distinct groups of subjects who have participated.

The largest of the three groups are the student and pupil nurses who used the orthopaedic learning package while they were working on the wards and who themselves are divided into three subgroups:-

a) The Student Nurses (R.G.N.), b) The Pupil Nurses (E.N.(G.)) and c) The University Students, (B.Sc, R.G.N.).

The second largest group are made up of the permanent nursing staff on the two orthopaedic wards which were used for the study. These comprise Ward Sisters, Staff Nurses and State Enrolled Nurses some of whom have been involved with the project from the planning stage.
The third and smallest group are the teachers who are either clinical teachers or tutors. Two of the teachers have been involved with the project since the planning stage, one of whom is myself.

The data which is referred to in this chapter was collected from the following sources:-

1. The Preliminary Questionnaire completed by all the student and pupil nurses before they used the learning package.
2. The Scores from the Pre-Tests, Post-Tests and Long Term Post-Tests completed by the student and pupil nurses.
3. The Self-Report Diaries kept by the students and pupils.
4. The evaluation sheets for the tape/slide programmes and the programmed texts used in the learning package.
5. The workbooks which the students and pupils used with the learning package.
6. My own diary of events.
7. The semi-structured interviews which I had with the following groups of people:-
   a) The student and pupil nurses
   b) The permanent nursing staff on the two orthopaedic wards
   c) The nurse teachers who were connected with the project.

7(A) THE PERSPECTIVE OF THE STUDENT AND PUPIL NURSES

Throughout this section of the chapter the effect of the project will be viewed from the perspective of the student and pupil nurses who used the learning package during the time they were allocated to the orthopaedic wards.

The differences and similarities between the reactions and behaviours of the three sub-groups or nurse learners will be highlighted and discussed. Where possible the findings will be compared with previous literature.
7(A) 1. APPROACH TO THE PROJECT

To start with each of these groups approached the project with several important differences which could affect the ways in which they reacted to the learning package. They also of course had many similarities, the most important one being that they were all learning to nurse.

A(1) a) Age

In age these groups were similar. For the majority nursing was their first choice of career which they had either entered soon after leaving school or after a short break in some form of temporary employment. Table 7(A)(1)(i) illustrates the age range in the various groups:

<table>
<thead>
<tr>
<th></th>
<th>Age 19-22</th>
<th>Age 23-30</th>
<th>Age over 30</th>
</tr>
</thead>
<tbody>
<tr>
<td>Students</td>
<td>25</td>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td>Pupils</td>
<td>11</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>University</td>
<td>7</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 7(A)(i) Age Range of Student and Pupil Nurses Participating in the Project

The student nurses who were older had had experience in a variety of areas including dental nursing (S16), teaching (S23), orthopaedic nursing (S11) and art school (S24). The pupil nurse who was over 30 had been a hairdresser. (P9)

A(1)b) Resident/Non-Resident

The majority of members from all three groups were resident and either lived on the same site as the hospital in which they were currently working or in a nurses' residence two miles away. Hospital transport was available for those who did not live on site.
Table 7(A)1(ii) Living Arrangements for Student and Pupil Nurses Who Participated in the Project

<table>
<thead>
<tr>
<th></th>
<th>Resident</th>
<th>Non-Resident</th>
</tr>
</thead>
<tbody>
<tr>
<td>Students</td>
<td>23</td>
<td>7</td>
</tr>
<tr>
<td>Pupils</td>
<td>10</td>
<td>2</td>
</tr>
<tr>
<td>University</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Students</td>
<td>7</td>
<td></td>
</tr>
</tbody>
</table>

Table 7(A)1(iii) Numbers of 'O' Levels Obtained by the Student and Pupil Nurses Who Participated in the Project

A(1) C General Educational Attainment

This was a sphere where there were considerable differences between the three groups which as a general rule correlated with the various entrance qualifications for the courses they were taking. None of the subjects had general educational qualifications which would allow them entrance to a "higher" course in the area. Although there were two pupil nurses with 5 'O' levels which would normally have allowed them entrance to the R.G.N. course, these had been obtained over several sittings and overall the grades were low.
Table 7(A)1(iv) Number of 'A' Levels Obtained by the Student and Pupil Nurses Who Participated in the Project

Five of the Pupil Nurses entered training by passing the General Nursing Council entrance test.

A(1) d) Private Study Habits

With such a wide range of educational background it seemed likely that members of the various groups would have acquired different attitudes and practices in their habits relating to private study. Although I did not investigate this aspect in any depth I did include some questions in the preliminary questionnaire, the results of which have revealed certain trends.

The following three tables illustrate what the student and pupil nurses reported about the amount of time they devoted to private study both during their last year at school and since they started their nursing courses.

<table>
<thead>
<tr>
<th>Average number of hours' study in own time each weekday</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>University</td>
<td>14.2</td>
<td>42.8</td>
<td>14.2</td>
<td>28.5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Student</td>
<td>3.3</td>
<td>5.0</td>
<td>33.3</td>
<td>13.3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pupil</td>
<td>58.3</td>
<td>41.6</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 7(A)1(v) Table to Illustrate the Average Number of Hours of Private Study Worked by Members of Each Group During Their Last Year at School/College
The figures relating to working at the weekends when the various groups were at school do not adopt any particular pattern. However the other two Tables 7(A)1(v), 7(A)1(vii) do show that in this particular group of people at least those who were following the course at the University were used to spending the most time in private study both during their last year at school and since they started nursing. The pupil nurses on the other hand were used to doing the least. In all the tables the student nurses demonstrate the widest range of experiences relating to study habits.
There were also differences between the groups in the amount they used their own textbooks for studying and in the amount they referred to nursing journals. The pupil and student nurses in my sample seemed to rely more heavily on their own textbooks for studying than the University students who used the library more frequently.

Table 7(A)1(viii) Response to the question:

18) When you are studying, do you use your own textbooks:
   
   a) Very frequently   c) Occasionally
   b) Quite often       d) Never

<table>
<thead>
<tr>
<th></th>
<th>a</th>
<th>b</th>
<th>c</th>
<th>d</th>
</tr>
</thead>
<tbody>
<tr>
<td>Students</td>
<td>60</td>
<td>30</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>Pupils</td>
<td>58</td>
<td>41</td>
<td></td>
<td></td>
</tr>
<tr>
<td>University</td>
<td>14</td>
<td>57</td>
<td>28</td>
<td></td>
</tr>
</tbody>
</table>

Comments made by some of the student and pupil nurses in their interviews indicate that their own textbooks are their main source of information:

P3 "I always tend to prefer my own books to going to the library".

Q. "So you rely very heavily on the books you own really?"

P9 "Yes I do, I like to choose a book that I find helpful and once I've got that I stick to it, rather than sort of diving in and looking for other books, unless I have to."

Q. "Do you like to have your own books as opposed to library books?"

S26 "Yes I do, and also my sister's a nurse so I've got a lot of her books."

Q. "So you own six of your own books, and you rely on those quite a lot, you said you use them frequently?"
"Oh yes, I do, especially "Understanding Nursing Care."

All the University students subscribed to a nursing or other professional journal and had read one recently. The other two groups, particularly the students did not refer so frequently to current literature as can be seen from the following tables:

Table 7(A)1(ix) Answers to the question: "Do you subscribe to a nursing or other professional journal?"

<table>
<thead>
<tr>
<th></th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Students</td>
<td>26.6</td>
<td>73.4</td>
</tr>
<tr>
<td>Pupils</td>
<td>58.3</td>
<td>41.7</td>
</tr>
<tr>
<td>University</td>
<td>100</td>
<td>-</td>
</tr>
</tbody>
</table>

Table 7(A)1(x) Answer to the question: "Have you read a nursing or other professional journal: a) this week b) this month c) in the last 3 months"

<table>
<thead>
<tr>
<th></th>
<th>a</th>
<th>b</th>
<th>c</th>
<th>None</th>
</tr>
</thead>
<tbody>
<tr>
<td>Students</td>
<td>16.6</td>
<td>36.6</td>
<td>40</td>
<td>6.6</td>
</tr>
<tr>
<td>Pupils</td>
<td>25</td>
<td>41.6</td>
<td>25</td>
<td>8</td>
</tr>
<tr>
<td>University</td>
<td>71.5</td>
<td>28.5</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

A(1) e) Feelings About Compulsory Work Assignments During Clinical Allocations

As well as knowing how much study the various groups were used to doing it seemed important to try to ascertain their feelings about whether or not work assignments should be compulsory during the time they were gaining practical
experience in the clinical areas. After all, with the exception of the University students who had a study day once a week, all those involved in the project were working at least 37½ hours per week on the wards.

All the University students and all the pupil nurses with one exception felt that work assignments should be compulsory. However although the majority of the student nurses agreed a significant number (7 = 23.3%) felt that they should be left to choose whether or not they should do the work. The following quotations taken from the students' questionnaire give reasons why they held these feelings:-

S18 "People should now be old enough to be treated as adults and if they feel they would gain from answering essays etc then allowed to do as few or as many as they wish."

S30 "Because nurses in the set are often on different allocations and some of the work given is not always applicable to the practical side of the nursing that they are doing at the moment."

S14 "It should be up to the individual whether or not he/she should do the work. The importance of it must be stressed though."

S4 "You are usually very busy on the wards and have very little time to complete work assignments."

S27 "Depending on the amount of work done on the ward - some students may be on a much busier ward than others. Many times I have come off duty and involuntarily fallen asleep due to simple exhaustion."

S31 "The job is very tiring anyway and studying just makes it harder to unwind after a day at work."

The pupil nurse who felt that work assignments should be voluntary also gave the pressure of ward work as the reason for this view:-

P10 "Because there is often not time to gather information on the ward and you are always tired when off duty."

The last four statements surely add fuel to the cry for student status and an end to the apprenticeship system
of training which was discussed in the literature in Chapter 2.2 (i) and (v) (Horder (1943), Wood (1947), Platt (1964), Judge (1985)).

Many of the comments made by the students and pupils who were in favour of compulsory work assignments when they were allocated to the clinical areas highlighted the need they felt to relate theory to practice in order to improve nursing care.

**Student Nurses:**

S6 "By completing work assignments it helps you to relate theory to practice and makes the job of nursing more interesting."

S12 "It is important to link practical and theory together to discipline yourself to do the work."

S16 "Generally it deepens one's understanding of the ward work, providing the assignment is relative to the area."

S26 "The written work, combined with studying the subject you are working with backs up the practical work you perform. Studying and practical work show different aspects of a situation. Many would not do the work unless it was compulsory."

S28 "You learn more about a particular subject whilst on the ward than any lecture will give you. It becomes clear and has a greater relevance."

**Pupil Nurses**

P2 "Work assignments can help to enhance practical knowledge and make the nurse really think about what he/she is doing and why and how it will affect the patient."

P3 "As it helps you to understand the work that you are doing so that you know why and how things are done."

P4 "Because I feel having to do a work assignment makes me learn more about the clinical area."

P6 "I think it encourages you to work, and learn about the ward and the care the patients need."
University Students

U6 "In order to learn about the nursing care of the patients on a particular ward and the types of conditions. If work assignments are done at the same time as clinical experience it is easier to relate what you are learning to practice."

U1 "Having to do work assignments makes you look up what you do not know and this helps you give better patient care when you are on the wards."

The other main reason the members of all three groups gave for having compulsory assignments was in order to motivate them to work by giving them specific aims and a set deadline as to when the work should be completed:

Student Nurses

S1 "I personally feel that if I know I do not have to complete work assignments I will not do so, I need to know I have a deadline to meet, to encourage me to do so."

S3 "If relevant and well thought through work assignments are valuable. By being compulsory I have more motivation to do them. Though interested, I think I would let them slip too easily if it was up to me."

S7 "I feel I get down to do the work when someone sets a deadline. It gives you something to aim at and helps you to discipline your work."

S11 "I feel I have to be made to do things, and if things are compulsory it urges me on, I'm interested to carry on, it's just the push to start."

Pupil Nurses

P9 "I feel that perhaps work assignments would not be completed if they were not compulsory. As I feel that work assignments help a student to learn (on each particular ward etc) then I think that they are an important part of nurse training."

University Students

U4 "I find it much easier to work to deadlines, also if you have a reasonable idea when completed work is expected to be handed in it's much easier to plan your own time-table."

These feelings of a need for deadlines which the students express would seem to agree with the findings which
emerged from Freemantle's (1976) study where he found that a main disadvantage of self-pacing in individual study courses was procrastination. However, because of the nature of nurse education programmes, deadlines are automatically set at the end of each clinical allocation so it was not anticipated that this would prove a problem.

One of the pupil nurses and two of the University students felt that compulsory work assignments were important as an assessment tool and as a method of checking that what they were learning in the clinical situation was correct.

Pupil Nurses

P8 "Because it can help the tutors to assess how we are doing on the wards. Also it lets them see our opinion about certain aspects of nursing, i.e. nursing care. They will also be able to see where we are going wrong and hopefully sort it out."

University Students

U3 "It gives a set objective to aim for. It also makes you read around your clinical situation maybe more than you would otherwise. It also gives you a guideline as to how well you understand the field you are working in and it gives an opportunity to have any wrong ideas you may have corrected."

U2 "It helps to ensure students do learn and study relevant clinical matters and also gives feedback on your ideas/knowledge arising from tutors' marking."

Previous Experience With Distance Learning

Very few members of any of the groups had used either programmed texts, learning packages or computer assisted learning while they were at school or since they started their nursing courses.
Table 7(A)1(xi) The number of participants in each group who have previously used any methods of distance learning:

<table>
<thead>
<tr>
<th></th>
<th>P.T.</th>
<th>L.P.</th>
<th>C.A.L.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pupils</td>
<td>2</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Students</td>
<td>6</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>University</td>
<td>-</td>
<td>1</td>
<td>-</td>
</tr>
<tr>
<td>Total</td>
<td>8</td>
<td>4</td>
<td>3</td>
</tr>
</tbody>
</table>

P.T. = Programmed Texts
L.P. = Learning Packages
C.A.L. = Computer Assisted Learning

Two of the students had used programmed texts during their previous two years in nursing otherwise all the details in Table 7(A)1(xi) apply to experience in general education.

A(1)g) Level of Satisfaction with Nurse Training/Education

The final question on the preliminary questionnaire was:-

26a) I have drawn a thermometer which ranges from "very satisfied" to "very dissatisfied".

"Very satisfied" (this line is 10cm long so that each mm = 1%)

"Very dissatisfied"

From:- Stapleton (1983) p 110
Could you mark on this with a line how satisfied you have been with your nurse training/education so far.

b) In your own words, please give some of the reasons why you have chosen this position to place your mark on the thermometer.

The information generated by this question highlighted a lot of important issues concerning attitudes towards the various courses in nursing between the three groups. The graphs in figures 7(A)1(xii) and 7(A)1(xiii) represent the scores of the satisfaction/dissatisfaction level of the members of the three groups. It can be seen that the student nurses were much more dissatisfied with their training/education than the other two groups with a mean score of only 45.45% against 60% for the University students and 68% for the pupil nurses.

The majority of student and pupil nurses wrote comments in answer to question 26(b) some of which were quite lengthy. Most of the comments gave reasons why the individual was dissatisfied with their course although a few did make more positive comments. The reasons which were given in answer to question 26(b) were very varied although it has been possible to break these down into certain categories. In some areas all three groups of nurses were in strong agreement about their reasons for being dissatisfied, for example lack of clinical teaching or supervision on the wards. Other reasons were more group specific, for example several of the pupil nurses felt that student learning needs were paid more attention on the wards than their own. In almost all cases the expressions used by the students tended to be more critical and forceful than the other two groups who on the whole were more understanding and tolerant concerning any deficiencies they perceived in their course.
Figure 7(A)1(xii)

Question 26(a): Satisfaction/Dissatisfaction level in relation to nurse training/education before commencing the project

U = UNIVERSITY STUDENTS
Mean 60% Range 39 - 81%

P = PUPIL NURSES
Mean 68.50% Range 33 - 92%
Question 26(a) Satisfaction/Dissatisfaction level in relation to nurse training/education before commencing the project.

**Figure 7(A)1(xiii)**

Satisfaction = 100%

Dissatisfaction...

\[ S = \text{STUDENT NURSES.} \]

Mean 45.46%

Range 15 - 80%
The following examples are chosen as being representative of the different feelings which were expressed:

A(1) g (i) Comments which indicate that nurses are generally satisfied with their training/education so far

The pupil nurses were much more positive in their comments than the other two groups although the University students made several favourable remarks. Only one student (S21) made a comment which indicated that she was really satisfied with her course.

Pupil Nurses

P6 Satisfaction Level 92%
"I enjoy my work, and have found all the school staff and clinical staff very helpful. I feel we have good use of all the necessary equipment and can usually find someone to help us if we need them."

P12 Satisfaction Level 75%
"I have found my training to be very encouraging from members of staff. I enjoy it."

P7 Satisfaction Level 81%
"I have been quite satisfied with my training so far, all trained staff, senior students and tutors have been very helpful. I worked with a clinical teacher on a number of occasions and found this more than helpful and improved some of my techniques greatly. The tutors are very helpful and are always willing to listen to "moans and groans" and are willing to either help or change certain situations."

P9 Satisfaction Level 88%
"I do feel satisfied with my training/education and have enjoyed it so far. I think that so much depends on the student and if they are willing to learn."

P1 Satisfaction Level 54%
"I have chosen half-way because the nurse training I have received so far has been useful to me in all my nursing situations on the ward and has been adequate enough for me to gain a knowledge of the situations going on around me."
University Students

U4 Satisfaction Level 81%
"I found the first and second years enjoyable, however I would have rather had more blocks of hospital experience. On the whole lectures are fine, some do seem irrelevant sometimes (some of the sociology) although those such as physiology and pharmacology were interesting and useful.

This year (3rd year) is great so far. I very much enjoy working full-time feeling more "useful" on the wards."

U3 Satisfaction Level 81%
"So far my education has been mainly theoretical and although this has been interesting it has not always covered some of the areas I would have wished. My practical experience is not really consolidated enough to comment on having only done one day a week mainly so I don't really know how much I can do competently, but that will be seen over the next year. But I do feel as though I have quite a good base to build on which has come from both my theoretical and practical education so far."

Student Nurses

S21 Satisfaction Level 80%
"I am quite satisfied with my nursing training so far as I enjoy the wards and can relate what I learn in the school to what is happening on the wards. Our nursing staff are very helpful with the learning structure of my training."

S20 Satisfaction Level 72%
"I think the training we receive on the ward is very good. The staff nurses teach a lot and if a clinical teacher works with you it is very useful......"

S8 Satisfaction Level 57%
"......on the whole teaching from most of the wards is quite useful and helpful."

Although the last two students made favourable comments about the wards they were critical about theoretical aspects of the course i.e. certain aspects of their lectures and a general lack of organisation in study blocks.
A(1) g(ii) Comments which indicate that group members were 

dissatisfied with the theoretical component of 
their course.

Many detrimental comments were made by members of all three groups concerning the general disorganisation of the theoretical components of their courses. There was also considerable criticism of the content, delivery, number and relevance of lectures.

University Students

U2 Satisfaction Level 39%

"I enjoyed nursing practical and theoretical subjects as 1st and 2nd years at University, but find lack of staff guidance in academic studies and disorganisation of the course has made me a bit disillusioned and on the whole I am less self confident than at the beginning of the course."

U7 Satisfaction Level 54%

Point made as part of a list of general comments:-
"3) Taught too much irrelevant information in lectures."

Pupil Nurses

P4 Satisfaction Level 44%

"I feel that as pupils we do not get enough lectures on subjects and are expected to do far more work on our own."

P8 Satisfaction Level 56%

"I am not under- or over-satisfied - just about average. There is a great deal of work to cover in two years and I realise it must be difficult trying to sort out how to do it. Sometimes during lectures we don't have time to discuss things fully, therefore if you don't fully understand you have to look it up in your own time which is fair enough. On the other hand if you do get into a discussion certain things may be missed and again you have to look it up on your own."
P9 Satisfaction Level 88%

"I do think that in my course (S.E.N.) there is a great deal of work which needs to be covered in such a limited time - and therefore the amount of information given is often too much (at a time)."

In the two year course leading to the Enrolled Nurse qualification pupil nurses only have a total of 10 weeks (50 days) theoretical content.

Student Nurses

S3 Satisfaction Level 37%

"The lectures we have in school vary considerably in quality, some have been extremely helpful whereas some have been a complete waste of time. The lectures could be co-ordinated a little better so that I could link together what I have learnt and then apply the knowledge practically."

S4 Satisfaction Level 43%

"Our time in block could be made more useful with more relevant information and lectures."

S6 Satisfaction Level 38%

"I believe we are not really given many really interesting lectures by permanent tutors. Not enough lectures are given in our weeks in block and there is a lot of wasted time."

S12 Satisfaction Level 42%

"Some lectures are muddled in as much that the subject is hard to understand and does not come across properly. Some teaching is good, some bad. Some lecturers are very hard to take notes from."

S1 Satisfaction Level 58%

"1) I feel there is not enough guidance given to what we need to know. 
2) I think the planning of study especially in block should more often be discussed with the student. 
3) The subjects covered often are not covered at the relevant time and not in an order in which it can best be understood."

S23 Satisfaction Level 59%

"The tutors in school I feel try very hard to provide what is necessary but I feel there is really too much "talk and chalk" and not enough planned involvement. For the 1st year I felt totally unprepared for work on each ward though this may be a criticism of myself! There are many new approaches - self help type which could be incorporated into our academic work."
All the following students also made comments which indicated that they were dissatisfied with some of the theoretical components of their course: S 2,5,10,11,13,17,18, 19,20,22,24,26,27,29,30. The particular aspects which they mentioned have been covered in the examples which have just been given.

A(1) g(iii) Comments which showed that there was dissatisfaction with the lack of teaching and support in the Clinical Areas

A very general need for more teaching and support on the wards was expressed by all three groups. The lack of clinical teachers was mentioned frequently as well as the paucity of teaching by qualified ward staff (nurses and doctors).

Pupil Nurses

P2 Satisfaction Level 76%
"....The clinical supervision given by a Clinical Teacher on the ward has been practically nil for most of my training due to cut backs etc."

P5 Satisfaction Level 80%
"....Some nursing staff could be more helpful when asked questions about care given to certain patients."

University Students

U5 Satisfaction Level 42%
"Lack of tuition + guidance on the ward. Particularly in developing "nursing skills"."

U6 Satisfaction Level 51%
"We have had little clinical teaching actually on the wards or elsewhere which has meant asking junior nurses how to perform basic procedures which we should have been shown to begin with. Often the staff on the ward don't know our capabilities and are reluctant to give us much responsibility because of this (particularly when working only 1 day a week on the ward)."

U7 Satisfaction Level 54%
"1) Not enough clinical teaching i.e. teaching of specific procedures on the ward.
2) Lack of ward tutorials."
Student Nurses

S9  Satisfaction Level 57%
"The School tries its best to give us as much information as possible, but this needs to be backed up on the wards. Far too often it's just too busy for the trained staff to set aside some time for learning sessions."

S10  Satisfaction Level 56%
"...I have had very little clinical teaching. On the wards it is often too busy for any teaching + often some staff not willing to teach."

S16  Satisfaction Level 63%
"On the whole I have been satisfied with my training to date but on some occasions have felt rather lost and unsupported on the wards - one of a number of pairs of hands rather than an individual with needs/problems related to work. Although I have known where I could go to get help - there has generally been neither time nor opportunity."

S23  Satisfaction Level 59%
"I feel that the ward experience is in most instances as good as it can be in the circumstances e.g. shortage of staff and the work load of the ward. However I do not feel that the trained staff are informed enough of their role as teachers. The atmosphere of the hospital is not one of a teaching hospital - on only two wards was I invited to go on a ward round - though I am aware that I am at liberty to go with the round, the atmosphere is not encouraging."

All of the following students also made comments in a similar vein to those which have just been cited indicating that they were dissatisfied with the amount of teaching and support which they were given in the clinical areas - S 2, 3, 4, 5, 6, 14, 18, 19, 20, 24, 27, 29 and 30.

Comments which indicate that the students feel that there is not enough communication between the ward and the School of Nursing/University

Comments from members of all three groups indicated that they felt that communications between the School of Nursing/University and the wards were poor. Many students said that they never saw their tutors on the wards, making some of them feel that the tutors were not interested in their welfare.
University Students

U7 Satisfaction Level 54%
"Lack of communication with members of teaching staff."

Pupil Nurses

P2 Satisfaction Level 76%
"...we are never visited by the tutor for that unit while working on the ward. Also not able to express our opinion to the tutor concerned."

Student Nurses

S3 Satisfaction Level 37%
"there seems to be too long a gap between the nurse education centre and the ward environment. We have little contact with the school between our blocks of lectures. I would very much appreciate contact and support from the tutors during the units."

S6 Satisfaction Level 38%
"We often don't see our tutors from the school during our allocation on the wards and only relate to them when we are in block."

S22 Satisfaction Level 36%
"Not much interest or time given by lecturers whilst we are on the wards (may sometimes not see lecturer from one session in block to next)."

S27 Satisfaction Level 44%
"I feel the only time our tutors are interested in us is when we are in school, once on the wards we are forgotten and have to manage study problems alone."

S29 Satisfaction Level 29%
"...I think tutors should play a more active part in the nurses training and visit them on the ward at least once during an allocation."

S30 Satisfaction Level 39%
"Not enough liaison between staff in school and us when we are on the wards."

A(l)g(v) Comments which are specific to particular groups

a) Students Only
The student nurses were the only group who mentioned that they had problems relating to private study or interblock
work. Several students wanted more work with clearer aims and better guidelines. Some mentioned that guidance on better study/learning methods would be welcomed. The work which students had been given so far in their course had not always been relevant to their practical ward work. Some students complained that the format of their work assignments had been boring and that they had to wait a long time to get their results. A few students mentioned that the marks they received were unrealistic.

S25 Satisfaction Level 24%
"I feel not enough encouragement is given in that few aims are given and guidelines so that we have little incentive to do home studying. The only thing we get are essay questions, which are quite helpful and case studies. We are not given topics to cover and learn about and work books to complete. I feel the standard could be raised if this occurred. We definitely need to be given more work to do!"

S28 Satisfaction Level 38%
"We don't have enough work (homework), partly our fault, but I find we are not pushed hard enough so we don't work."

S29 Satisfaction Level 29%
"I feel that not enough interblock work is given, and what has been given quite often has little relevance to what we are doing (on the ward) at that particular time............More work should be given to us whilst on the wards and this handed back quickly and explained individually where faults have been made. Also some grades on work corrected by tutors is unrealistic."

S30 Satisfaction Level 39%
"A lot of written work handed in on time is often not returned as quickly."

S8 Satisfaction Level 57%
"Sometimes I feel more guidance could be given on learning and how really to learn more and get the most out of books. It would be nice if we could have work packages in other past units, to give us some sort of guidance."
The following students also made similar comments to those which have just been mentioned relating to their dissatisfaction with interblock work and private study:—S 7,20,26,27,30.

A(l)g(v)b) Pupil Nurses
A few of the pupil nurses were dissatisfied with their course in comparison with the students and felt that certain injustices occurred.

P3 Satisfaction Level 33%
"I feel that pupil nurses do not seem to get as much encouragement as the students and the training plan needs to be re-arranged. A lot more teaching should be given as I find we (the pupils) are left to do our own work."

P4 Satisfaction Level 44%
"I feel that more attention is put to student learning on the wards and unless we ask we are not told or helped. I feel this is most unfair as we have a shorter time to learn, but when qualified are expected to know just as much as an S.R.N."

A(l)g(v)c) University Students
Several of the University students were dissatisfied with the arrangement of their clinical nursing experience during the first two years of their course. During this period they had spent one day a week on the wards and the remainder of the time in the University.

U1 Satisfaction Level 75%
"....more consolidated nursing blocks should have been done in the first two years. One day a week is very disorientating and you can not be of real use or feel part of the ward."

U6 Satisfaction Level 51%
"....I have never enjoyed working in the hospital one day a week, although I have enjoyed my third year (full time on the wards) very much so far."
U7 Satisfaction Level 54%

4) Not enough actual ward experience (in the 1st and 2nd years) - I would prefer a block system."

Since these comments were made a block system of ward experience has been introduced into the first and second years of the University course.

A(1) g(vi) Summary of the findings in answer to Question 26(a) and (b) of the preliminary questionnaire viewed against the literature

All three groups of nurses expressed a considerable amount of dissatisfaction with their nurse training/education before commencing my project. This was most marked in the student nurses and least marked in the pupil nurses. Both these groups were in the second year of their training. The University students were at the beginning of their third year. Singh (1972) in a study on attitudes of student nurses towards nursing education programmes found that favourable attitudes towards the course, the school, the tutors and the course organisation displayed by first year students were not maintained in the second year of training. He also found that the type of nursing education course is a significant factor in relation to students' attitudes. In his study students on courses leading to a degree and State Registration showed the most favourable attitudes to the nursing course and to the tutors. Students on courses leading to State Registration and the Diploma in Nursing of the University of London showed the most favourable attitudes to the training school and to course organisation. Singh (1972) did not include pupil nurses in his study. As regards attitudinal differences between different schools of nursing he found that students in non-teaching hospitals showed the least favourable attitudes. This could be a relevant factor in my study. Although Singh does not present any conclusive evidence he does suggest that one reason why second-year students display more negative attitudes towards the system under which they
have to train is because they came as learners and found they were labourers - pairs of hands.

Three common areas of dissatisfaction were highlighted by all three groups in my study. Concern was expressed relating to certain theoretical components of the course, the lack of teaching and support in the clinical areas, and the poor communication between the wards and the School of Nursing/University. All three areas of concern are well documented in Chapter 2.2(a) and (b).

Many of the student and pupil nurses in my study commented that "theory was not co-ordinated with practice" or that lectures were "irrelevant". Studies by Dutton (1968), Bendall (1973), Hunt (1974), Birch (1975), Jones (1975) and Gott (1982) all show similar findings. Gott (1982) stresses that the fact that students could not practise new skills when they were first taught caused them a lot of anxiety.

Too much information given at one time and not having enough time to discuss lectures in the school of nursing was another cause of dissatisfaction expressed by my subjects. Alexander (1983) found that Block timetables were full with almost every period occupied by a class and an emphasis by the tutors on "covering" the content of the course. She also found that students mainly adopted a passive recipient role, rather than an active searching role in relation to learning. This last fact would agree with students in my study who complained of too much "talk and chalk" and not enough planned involvement in the learning process. Gott (1983) also stressed the need to use more progressive and imaginative teaching methods in nurse education programmes.

A few students would have liked more opportunities to discuss the content and organisation of their course with the tutors. Findings by Singh (1972) suggest that student nurses should be given every opportunity to evaluate their experiences in both the school and the wards and that any constructive contributions that they might make should be used to improve their course.
Chapter 2.2b(II) "Studies which highlight poor teaching and learning in the ward areas", makes reference to all the areas of student dissatisfaction in relation to the practical aspects of their course which have just been highlighted in this study. The main cause for concern voiced by the subjects in this study was lack of tuition and guidance on the wards. This is substantiated in studies by Revans (1964), Birch (1975), Alexander (1980) and Reid (1985). Two-thirds of the students in Reid's study had not worked with a Clinical Teacher on their current ward and students in Alexander's study learned most from the other students and the staff nurses rather than the Ward Sister or Clinical Teachers. Reid (1985) also pointed out that when students worked in pairs they worked with their peers rather than with a qualified member of staff. All of these problems were given as reasons for dissatisfaction by my subjects. In a study by Ogier (1980) some of the students felt like "workers" rather than "learners", a feeling in common with students in my study who complained of being "just a pair of hands".

Studies by Fretwell (1982), Bryant (1985), Farnish (1985) and Reid (1985) all give support to the students in my study who complained that "Ward staff were not informed enough about their role as teachers" and that "the ward staff do not know our capabilities". Bryant (1985) and Farnish (1985) both state that Ward Sisters are very conscious of their lack of preparation for their teaching role. Fretwell (1982) stressed the urgent need for the Ward Sister to be trained for this role. Reid (1985) states that staff nurses did not see themselves as teachers although they worked most closely with the students.

The third area of dissatisfaction that members of all three groups in my study mentioned was poor communication between the ward and the School of Nursing/University. They were particularly perturbed that they were so rarely visited by a tutor while they were working on the wards.
Reid (1985) found that not only did tutors rarely visit the wards but the ward staff rarely visited the school. Gott (1982) stresses that tutors should spend more time working with students on the ward and thus enhance their teacher value. Bryant (1985) states that Ward Sisters felt they should be consulted more by the tutors and that more use should be made of their specialist clinical knowledge.

Each group of nurses highlighted an area of dissatisfaction with their course which was peculiar to them as a group. The student nurses felt that they needed more interblock work (private study) and that they were not "pushed" hard enough. Some of them mentioned that the assignments they were given were irrelevant to their ward work, papers were sometimes given back late and marks were unrealistic. Alexander (1980) found that very little study was either done by or required of students in their own time and that generally private study was not valued by teachers as a method of learning.

An area of dissatisfaction which was peculiar to the pupil nurses was that some of them felt that their course was not as "good" as the students' and that they were not given as much encouragement as the students on the wards. They felt that they needed a lot more teaching as their perception of the future was that they "had to do the same job as the students in the end". Briggs (1972) pointed out that the actual level of work assigned to enrolled nurses is often very similar to that assigned to some registered nurses at staff nurse grade. It was felt that this could only lead to confusion and bitterness (see Chapter 2.2a(ii)).

The dissatisfaction felt by some of the University students concerning the fragmented clinical experience which they received in the first two years of their course was really a local problem and has now been rectified.
A(1)h) Allocation to the Orthopaedic Wards

The final difference between the three groups relates to their allocation period to the Orthopaedic Wards which was briefly described in Chapter 4.2. Student nurses were allocated to the ward for four weeks on day duty as part of their four months Trauma experience. For the remaining three months they would spend one month each on Accident Centre, Theatre and The Intensive Care Unit. See Figure 7(A)1(xiv).

Each group of students was divided into four sub-groups (A, B, C and D) of between two to four depending on the size of the group. They would move around following one of the lines demonstrated in Figure 7(A)1(xiv). Usually two students would be allocated to each of the orthopaedic wards at the same time. Occasionally a student would be on their own if they came from a small set.
Pupil Nurses also worked on the Orthopaedic Wards as part of their four months Trauma Experience. However they would spend eight weeks on the ward, seven of which would be on night duty. The first week of the allocation would be a one week's orientation period on day duty. Pupil Nurses would choose which two of the three departments they would work in for the remaining eight weeks of their Trauma Experience. See Figure 7(A)1(xv)

<table>
<thead>
<tr>
<th>Days</th>
<th>Orthopaedic Wards</th>
<th>Accident Centre</th>
<th>Theatre</th>
</tr>
</thead>
<tbody>
<tr>
<td>Night Duty</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Group A

<table>
<thead>
<tr>
<th>I.T.U.</th>
<th>Theatre</th>
<th>Days</th>
<th>Orthopaedic Wards</th>
<th>Night Duty</th>
</tr>
</thead>
</table>

Group B

= 1 weeks Study Block

Orthopaedics = 8 weeks

Figure 7(A)1(xv) Representation of the allocation of Pupil Nurses to the Wards and Departments Used During Their Trauma Experience

Three or four pupil nurses would be on night duty at any one time meaning that either one or two would be allocated to each of the orthopaedic wards. However they would rarely be on duty at the same time as they would almost always be on opposite duty rotas.

The University Students were allocated to the orthopaedic wards as part of their surgical experience. Students would spend a minimum of 5 weeks and a maximum of 8 weeks on the ward, often spending the final week of their allocation on night duty. One day each week the University Students would be released from their ward duties to attend a study day in the University.
A(1)i) Summary

This section of the chapter has described and discussed some of the characteristics, habits and attitudes of the three groups of nurses who took part in this study before they were issued with distance learning materials. In order to understand the reactions and behaviour of these three groups when they used the learning materials it seemed most important to ascertain what differences there were between them as well as the areas in which there were similarities.

In age the groups were very similar, by far the majority being between 19 and 22 years. Apart from 9 subjects who lived at home they were all resident living in accommodation provided by the Health Authority most of which was close to where they were working.
The three groups had a very wide range of educational attainment falling into the pattern which might be expected in relation to the entrance qualifications needed for the various courses which they were following. The pupil nurses had the lowest attainments in general education whereas the University students had the highest. The student nurses came between the two extremes.

The three groups differed in their habits relating to private study. The University students were used to devoting the most time to private study both during their last year at school and since they had started nursing. The pupil nurses on the other hand were used to the least. The student nurses who fell between the two groups demonstrated the widest range of time devoted to private study.

The student and pupil nurses tended to rely more on their own text books for studying whereas the University students were more likely to make use of library books. The University students also made better use of nursing and other professional journals than the other two groups. Of the three groups the student nurses made the least use of current literature.

By far the majority of nurses in all three groups felt that work assignments (private study) should be compulsory when they were working on the wards. However a significant number of the student nurses (23.3%) felt that they should be optional. A variety of reasons were given for this statement, the most common one being that the ward work was very heavy and that they were too tired to study. For those student and pupil nurses who were in favour of compulsory work assignments the main reasons given were in order to relate theory to practice and thus improve patient care, and in order to motivate them to work by giving them specific aims and setting deadlines for completion. A few nurses felt that work assignments were important as an assessment tool and as a method of checking that what they were learning on the wards was correct.
Very few people in any of the groups had had experience of distance learning before, either at school or since they started nursing. For those who had, the use of programmed texts was the most common method.

Although some members of all three groups had been satisfied with the training/education which they had received so far in their nursing course a high proportion indicated that they had been dissatisfied. Overall the student nurses were definitely the most dissatisfied group and expressed themselves in the strongest terms. The pupil nurses were the most satisfied. The common areas of dissatisfaction which were expressed by all three groups were the lack of teaching and support in the clinical areas, poor communications between the ward and the school/university and certain aspects of the theoretical components of their course. This last point included such comments as lectures being irrelevant and not related to practical aspects of the course, and a surfeit of information being given at one time in study blocks.

The final difference between the three groups of nurses was the length of time which they were allocated to the orthopaedic wards. The student nurses had the shortest allocation spending only four weeks on day duty. The pupil nurses stayed the longest spending eight weeks on the ward, the majority of which was on night duty. The University students were allocated for varying lengths of time, the most common being five weeks, the final week of which was usually spent on night duty. One day a week these students spent a study day at the University.

In conclusion I want to stress that the opinions and attitudes expressed by these three groups, particularly in relation to their satisfaction level concerning their training/education only apply to these particular groups at this particular time. Although in many instances the results obtained do correlate with the literature (see:- Chapter 7(A)1(g)vi) it should not be assumed that they are in any way universal or that they would be duplicated by samples of learners on the same courses in the same institutions if they were obtained at
a different time. The results are however paramount in evaluating how my subjects reacted to using distance learning materials in the clinical areas which will be discussed in the next section.

7(A)2 GENERAL FEELINGS TOWARDS THE USE OF THE LEARNING PACKAGE

The first question I asked all the learners when I interviewed them at the end of their allocation to the orthopaedic ward was either:

"Maybe I can start with a very broad question about this work you have been doing, how do you feel about having done the work?"

or

"I wonder if I can start with a broad question about how you feel about taking part in this project, any feelings you have about it?"

The majority of subjects answered without any hesitation and had all formed some definite feelings about doing the work and/or about this method of learning. Although the answers were very varied, common patterns did emerge both within and between the three different groups. The main division was between the remarks which indicated positive feelings towards the work/method of learning and those which were negative. Overall there was a predominance of positive/favourable remarks particularly as regards the first comment which was made. This correlates with previous studies where individualised learning has been used in nursing education. These were discussed in the literature review in Chapter 2.3(b); Hogstel (1976), Blatchley et al (1977), Dunsmore (1977) and Logue (1984).

a) Positive Feelings

Table 7(A)2(i) shows the main positive feelings which were expressed by the subjects in the various groups.
<table>
<thead>
<tr>
<th>Categories</th>
<th>S  n29</th>
<th>P  n12</th>
<th>U  n7</th>
<th>Total n48</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1) An interesting way to learn. Learnt more this way.</td>
<td>12</td>
<td>4</td>
<td>1</td>
<td>16= 33%</td>
</tr>
<tr>
<td>(2) Motivating. Gave them an incentive to work.</td>
<td>11</td>
<td>4</td>
<td>1</td>
<td>16= 33%</td>
</tr>
<tr>
<td>(3) Liked the structure/format of the work.</td>
<td>12</td>
<td>2</td>
<td>2</td>
<td>16= 33%</td>
</tr>
<tr>
<td>(4) Enjoyed the work. Found it helpful.</td>
<td>2</td>
<td>7</td>
<td>1</td>
<td>10= 20%</td>
</tr>
<tr>
<td>(5) Liked using a variety of media.</td>
<td>3</td>
<td>4</td>
<td>3</td>
<td>10= 20%</td>
</tr>
<tr>
<td>(6) Helped them care for the patients better. Gave them confidence in</td>
<td>6</td>
<td>2</td>
<td>8</td>
<td>16%</td>
</tr>
<tr>
<td>their practical work.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(7) Found the work useful.</td>
<td>2</td>
<td>2</td>
<td>4</td>
<td>4= 8%</td>
</tr>
<tr>
<td>(8) Liked working at their own pace/choosing the order of the work</td>
<td>2</td>
<td>1</td>
<td>3</td>
<td>3= 6%</td>
</tr>
</tbody>
</table>

S = Students  P = Pupils  U = University Students

Positive Feelings Which Were Expressed by the Student and Pupil Nurses After Using the Learning Package
As the comments made by the student and pupil nurses often incorporated several of their feelings in one sentence it is hard to give quotations which illustrate each of the above categories separately. However the following are representative of the most common feelings which were expressed:

**Student Nurses**

S14  "I liked it, I found it very interesting."
Q  "What did you like about it?"

S14  "Organised, I liked the way, you know, it was all sort of put together, the whole package and it was easy to understand and it was just nice to be able to take something like that home and sort of have it all there in one big lump and to be able to work from it, I just like that, it was good, it was also relevant to what we are doing on the ward as well."

later

"...it just sort of motivates you really to sort of learn more if you've got it there in front of you, than it would, you feel more inclined to go and do some work, rather than if you have to run around looking through books, visits to the library, but if you've got it all there in front of you, then you know, it does sort of motivate you to do more."

S20  "I enjoyed doing it, it's nice to sort of go back and have something to do, say like the tape slides, you know that probably you could do it in an hour, hour-and-a-half and so you had a set time."

later

"I think being able to choose was nice, if we did have any time left over then you could look at other things."

("choosing" referred to topics which were most relevant to ward work.)

S8  "Well, I felt it was - well - learning. It helped me to learn a lot. I enjoy doing that. It's sort of very stimulating and made me think about it and, with the tape/slides and the apparatus like the bones and that, I found it very useful."
Q "Yes, having the actual - "

S8 "Yes, having it actually there on a tape slide, you could refer it to the patients on the ward."

S23 "Well to be honest I was pleased about it, about the whole idea of having a structured sort of learning package, because that's one of the things that I do find quite difficult, organising my own study time on the ward, I feel that it's very haphazard, the work we have had up to now has not been particularly relevant to the ward work that we are doing."

Q "How does it compare with other interblock work?"

S23 "Well the word which comes to my mind is that it is very reinforcing, whereas the interblock work isn't, because (a) it's a long time before you come back to it before it's marked and before you actually talk about it, so you know you've slightly forgotten what you've put in, whereas this work you know, it's self correcting sort of thing, most of it and it was very reinforcing, I found that an interesting way of doing it."

Pupil Nurses

P6 "I enjoyed it, and I think it has been very helpful to us, on the wards, especially the slides and the programmes with those, as they're informative, and I think pictures - well, I think myself, anyway, I need pictures to relate to things. And I've enjoyed doing them from that. I found it interesting."

Q "Good. So you say it's helped you on the ward? In what way has it helped you?"

P6 "Well it's all relevant towards work ..." (goes on to give details of the way it is relevant) later

"I mean as everything was laid out for us I enjoyed doing it."

P1 "Well I enjoyed it. It sort of gave me some incentive to work, you know, because - I suppose because we had to do it really."

Q "What made it enjoyable?"

P1 "The slide programmes, I think."
P2 "Well it's very beneficial, it's a good way to learn."

As a group the pupil nurses used the word "enjoy" much more than the other two groups who usually said that the learning package was "interesting" or "useful". A possible explanation for this feeling of enjoyment is that the pupil nurses were the group who were the most satisfied with their training/education before they started using the package (see Chapter 7(A)1) and may therefore have been more receptive. Also the pupil nurses were allocated to the ward for a longer period than the other two groups and were not so pressurised to get the work done in a hurry.

University Students Comments

U3 "I found it was a really good way of learning, I was quite pleased to sort of take part in it, because it's a different way of learning than I've been used to. I haven't taken part in any research projects before, and it was good to see how people go about it, really - the sort of things they do."
Q "Yes, but by saying you haven't learned like that before, do you mean 'not ever' or 'not in your nurse training'?"

U3 "Never ever having a package and a set of slides and a projector and sort of doing it on my own."

U1 "I've enjoyed working on the orthopaedic wards and, um, it was very useful doing the tapes and slides and whatnot, because it made you read and you learned more about what you were supposed to be doing."

U6 "I think it's been very useful, I think I've learned more on this ward than I've learned on any other ward, you know, doing this."

U7 "Well I feel it's definitely been beneficial to my work on the ward, I think I've understood what I'm doing more, I mean I think orthopaedics is very difficult because it is a very specialised field, I mean it's different to a sort of general medical ward, because you have got the sort of different prothesis and the care of the different patients and that sort of thing, so I think it did help."
Q "You say you understood more?"

U7 "More than I would, I think I've gained more than I would perhaps on another ward, yes."

later

U7 "I feel that I've understood more about the care I was giving on the ward, I've related the theory to the practice rather than the two being a bit separate. Having actual pictures to look at, of nurses moving patients, doing particular procedures or whatever, I found that, you know when you've got actually something to look at, and you can actually see yourself in that position, because I mean it's very difficult when you're reading a book and they explain you know, in words, how to position a patient, you can't really envisage it really, but when you can actually see it, I think it sticks, it sticks better."

Students comments concerning their ability "to relate theory to practice" while using the learning package were very encouraging as this was one of the main aims of setting up this project (see Chapter 2.1). This finding also correlates with the work of Dunsmore (1977) who found that students' ability to conceptualize and integrate knowledge for clinical application matured more rapidly using auto-tutorial (independent) learning methods.

Considering the amount of time and money the tape slide programmes had taken to produce it was reassuring to hear that they had been instrumental in attaining this deeper understanding of the students' clinical work. A later section of this chapter will be devoted solely to a discussion of the use of the various media in the learning package.

All the students and pupils who took part in the study knew that I had personally produced the learning package. It was therefore possible that the positive feelings which students expressed to me during their interviews were over-generous or exaggerated. However my interviews with other teachers involved in the project confirmed that the same feelings had also been expressed to them.
Clinical Teacher 2

CT2 "A lot have said they enjoyed it."

Q "Yes, have they said why they've enjoyed it?"

CT2 "Well, because it helps them with their nursing care of the patients; helps them in a deeper understanding of the theory side of it, and therefore because they have got a deeper understanding of the theory, they can relate it better. Oh, I think a few have actually mentioned exams, obviously one or two. And a few have actually said, having done that little bit in a bit more depth, they're quite interested in going on to do orthopaedic nursing, afterwards, when they actually do finalize."

later

"But certainly they've said they've enjoyed it, because it has helped them, that they have learned a lot from it. Some of them have said that they wished they had this in other areas."

Clinical Teacher 3

"...but generally I think when you start to talk to the students as to how helpful they find it, it's favourable. They enjoy doing it, they enjoy the format, they like the tape slides, they like taking it at their own pace, and I think they feel quite special, actually being chosen in a way, to do this particular project."

Clinical Teacher 1 (Night Duty)

Q "Did they mention the package much to you? The people that were on night duty?"

CT1 "Yes they did. And again the comments varied very much, from pupil to pupil and student - each one. Some found it a lot and some relished it."

later

Q "What sort of comments did they make, the ones that relished it?"

CT1 "Oh, because it made it all much more interesting to learn, and the fact that they could take it away and do it in the peace and quiet of their own room. Learning on night duty was so difficult, but if they could take it away and do it on their day off, then that made it easy."
Nurse Tutor 2

NT2 "I always ask them about it when I interview them at the end of the unit and every single one of them has said they thought it was a really good way of learning and they really felt it was worth it."

Q "Do they mention motivation, I mean they may not mention the word, but anything that indicates that their motivation is any way different from other times?"

NT2 "Yes, one quote I can produce, because it was along the lines of...'I find it more interesting to learn this way, I wish other things that we did were done in the same sort of way, and I feel I could learn better, and it makes me more, it makes me want to actually do the work', that's something that has been said."

Q "By 'this way' do you know which particular media they are referring to?"

NT2 "I think they're thinking firstly, from what I've, talking to them, that firstly they're thinking in terms of the fact that they can work through at their own speed, that I think is the big thing, and secondly having tape slides, they can go back to, in their own speed, if they're not quite sure, they can go back and have another look at it, I think these are the two big things."

NT2 had noticed a change in the comments/remarks he gets from students about working on the orthopaedic wards since the learning package was introduced.

NT2 "It's changed wholeheartedly, because I used to get, when I first took over the unit, I used to get so many moans and groans, and orthopaedics was certainly no exception and night duty for the pupils particularly. Orthopaedics certainly came under fire, and it was usually the same thing each time, which was that, well I'll quote 'well all I did was wipe bottoms for four weeks' or in the case of pupils, for eight weeks or seven weeks on nights. Since the package has been used, a lot of these remarks have not only stopped, and I can't believe that it is because they've been doing any less, let's say wiping bottoms than they were before, but because they are actually coming through not feeling that they have had no teaching, they've been well supported, they are actually feeling now that they have had a lot of support,
a lot of teaching, even though, the interesting thing is, perhaps a lot of it has been from their own generation, that they've been working through things themselves."

later

NT2 "As I say a lot of nurses are actually putting the orthopaedic wards on their lists of wards they actually want to go back to work on. They wouldn't have done this so much before."

This last remark is particularly interesting. As well as having been mentioned by CT2 (p. 7.42) it was an observation which I had made myself over the period of a year and a comment which had also been made informally by the ward sisters. Although a lot more investigation is necessary it would appear that by improving learning opportunities in clinical areas when students are in training it is more likely that they will want to return to this speciality when qualified. This may well be a useful line of enquiry to pursue in clinical areas which find it hard to recruit qualified staff, for example geriatric wards.

During my interviews with the trained staff on the two orthopaedic wards it appeared that students and pupils had not been very forthcoming with their remarks concerning how they felt about using the learning package and with a few exceptions the staff had not questioned them about it. However what positive remarks they did make corresponded with the categories already mentioned.

Ward Sisters

WS2 "I think they are quite impressed with it really, find it quite helpful, I've never heard any sort of detrimental comments, and - er - they don't normally talk to me about it - I usually overhear them talking to one another and it's, 'Have you looked up so and so in the package?', and I've only ever heard good things from it, really."

Staff Nurse

SN2 "They all think it's very good that they should - it should be there - and they enjoy watching the films and hopefully - I think they do learn from them, from questioning them, anyway I think they do learn."
Enrolled Nurses

SEN3 "Some of them do say that they find it useful especially when they start seeing things on the ward, they can relate it to what they have learnt."

SEN5 "I think they find them quite useful, I've never heard anybody groan about them, at all, they seem quite pleased with them."

A particularly important point which emerges from all these remarks is that both student and pupil nurses appear to appreciate a very definite framework and structure to their learning when they are working in the clinical areas:-

S4 "It was nice to have the work set out."

S19 "Organised. I like the way it was all put together."

S19 "It gives you an outline where to start. It gives you more guidelines of what you need to know."

S13 "It's laid out in a simple way, it's interesting, I like the frequent testing."

S7 "It gives some direction what to learn."

P6 "I liked having everything laid out."

U4 "I liked having something to fill in."

U1 "I enjoyed having guidelines. The basic framework was very useful."

Working in the clinical areas can be very tiring both physically and emotionally, and a method of learning which is structured is easier to undertake and make progress with in off-duty hours than assignments which are more open ended. This is not to indicate that student nurses should not be given a variety of assignment during their course, but rather that tutors should be more selective concerning the format of these assignments when the students are allocated to the wards particularly while an apprenticeship type of training still exists. The next section of this chapter (7(A)3) stresses the effect that this structured method of learning had on the students/pupils' study patterns. This section will also include
further discussion on the students' increased motivation to work which has also been highlighted above.

b) Negative Feelings

Table 7(A)2(ii) indicates the main negative remarks concerning the use of the learning package by the subjects in the various groups.

Tables 7(A)2(iii), (iv), (v) and (vi) give an overview of the quantitative data which were collected from the subjects who took part in the project. They include the following information:

- **Column (2)** The learners level of satisfaction with their training/education before they started using the learning package.
- **Column (3)** The number of weeks the learner was allocated to the ward.
- **Column (4)** The total number of hours the learner spent working on the learning package.
- **Column (5)** The average number of hours per week the learner spent working on the learning package.
- **Column (6)** The average number of hours per week the learner spent on study overall. Some of them did other work as well as the learning package.
- **Column (7)** The number of sections of the learning package which were completed. There were 25 sections in the package. This result is expressed as a percentage. It refers only to the quantity of work which was done and not to the quality.
- **Column (8)** The Pre-Test Score. This was the test score obtained before using the learning package or working on the orthopaedic ward.
- **Column (9)** Post-Test A. This is the result of the test given on immediate completion of the allocation to the orthopaedic ward after using the learning package.
Table 7(A)2(ii)

<table>
<thead>
<tr>
<th>Categories</th>
<th>S n29</th>
<th>P n12</th>
<th>U n17</th>
<th>Total n48</th>
</tr>
</thead>
<tbody>
<tr>
<td>Too much work to do in the allotted time i.e. during allocation to the ward</td>
<td>17</td>
<td>3</td>
<td>1</td>
<td>21</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>42%</td>
</tr>
<tr>
<td>Work was too complex/deep/hard</td>
<td>2</td>
<td>3</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>10%</td>
</tr>
<tr>
<td>Package too big to carry easily. Too heavy. Looked rather daunting</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>8%</td>
</tr>
<tr>
<td>Felt too tired to work a) heavy ward b) night duty</td>
<td>2</td>
<td>1</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>6%</td>
</tr>
<tr>
<td>Not the way they like to learn</td>
<td>2</td>
<td></td>
<td></td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>4%</td>
</tr>
<tr>
<td>Did not like the ward/subject</td>
<td>1</td>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>4%</td>
</tr>
<tr>
<td>Wrong subject chosen for the package</td>
<td>1</td>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2%</td>
</tr>
</tbody>
</table>

S = Student  P = Pupil  U = University Student

Negative Feelings Which Were Expressed by the Student and Pupil Nurses After Using the Learning Package
<table>
<thead>
<tr>
<th>No.</th>
<th>Satisfaction %</th>
<th>Weeks on Ward</th>
<th>Total Time Study on LP</th>
<th>Hours Per Week Study on LP</th>
<th>Hours Per Week Study at Home</th>
<th>% of Sects. Completed in LP</th>
<th>Pre-Test Score</th>
<th>Post-Test A Score</th>
<th>Post-Test B Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>58%</td>
<td>4</td>
<td>12H 00M</td>
<td>3H 00M</td>
<td>3H 00M</td>
<td>50%</td>
<td>60%</td>
<td>90%</td>
<td>90%</td>
</tr>
<tr>
<td>2</td>
<td>51%</td>
<td>4</td>
<td>17H 26M</td>
<td>4H 26M</td>
<td>4H 26M</td>
<td>58%</td>
<td>48%</td>
<td>93%</td>
<td>73%</td>
</tr>
<tr>
<td>3</td>
<td>37%</td>
<td>4</td>
<td>14H 35M</td>
<td>3H 35M</td>
<td>3H 35M</td>
<td>58%</td>
<td>60%</td>
<td>87%</td>
<td>76%</td>
</tr>
<tr>
<td>20</td>
<td>72%</td>
<td>4</td>
<td>12H 07M</td>
<td>3H 07M</td>
<td>3H 07M</td>
<td>56%</td>
<td>66%</td>
<td>87%</td>
<td>76%</td>
</tr>
<tr>
<td>21</td>
<td>80%</td>
<td>4</td>
<td>19H 21M</td>
<td>4H 21M</td>
<td>8H 21M</td>
<td>50%</td>
<td>60% + +</td>
<td>75%</td>
<td>81%</td>
</tr>
<tr>
<td>22</td>
<td>36%</td>
<td>4</td>
<td>4H 01M</td>
<td>1H 02M</td>
<td>1H 02M</td>
<td>34%</td>
<td>72%</td>
<td>78%</td>
<td>76%</td>
</tr>
<tr>
<td>23</td>
<td>59%</td>
<td>4</td>
<td>8H 03M</td>
<td>2H 03M</td>
<td>3H 03M</td>
<td>40%</td>
<td>69%</td>
<td>75%</td>
<td>79%</td>
</tr>
<tr>
<td>24</td>
<td>67%</td>
<td>4</td>
<td>6H 07M</td>
<td>1H 07M</td>
<td>2H 07M</td>
<td>36%</td>
<td>63%</td>
<td>75%</td>
<td>76%</td>
</tr>
<tr>
<td>25</td>
<td>24%</td>
<td>4</td>
<td>14H 43M</td>
<td>3H 43M</td>
<td>3H 43M</td>
<td>44%</td>
<td>78%</td>
<td>76%</td>
<td>93%</td>
</tr>
<tr>
<td>26</td>
<td>22%</td>
<td>4</td>
<td>16H 12M</td>
<td>4H 12M</td>
<td>4H 12M</td>
<td>56%</td>
<td>63%</td>
<td>96%</td>
<td>78%</td>
</tr>
<tr>
<td>27</td>
<td>44%</td>
<td>4</td>
<td>9H 25M</td>
<td>2H 25M</td>
<td>2H 25M</td>
<td>56%</td>
<td>49%</td>
<td>88%</td>
<td>70%</td>
</tr>
<tr>
<td>28</td>
<td>38%</td>
<td>4</td>
<td>12H 25M</td>
<td>3H 07M</td>
<td>3H 07M</td>
<td>48%</td>
<td>64%</td>
<td>72%</td>
<td>63%</td>
</tr>
<tr>
<td>29</td>
<td>29%</td>
<td>4</td>
<td>10H 32M</td>
<td>2H 38M</td>
<td>2H 53M</td>
<td>76%</td>
<td>47% + +</td>
<td>91%</td>
<td>76%</td>
</tr>
<tr>
<td>30</td>
<td>39%</td>
<td>4</td>
<td>5H 22M</td>
<td>1H 25M</td>
<td>3H 25M</td>
<td>32%</td>
<td>88%</td>
<td>78%</td>
<td>84%</td>
</tr>
<tr>
<td>31</td>
<td>52%</td>
<td>4</td>
<td>2H 37M</td>
<td>6H 37M</td>
<td>Approx lost diary</td>
<td>16%</td>
<td>72%</td>
<td>70%</td>
<td>69%</td>
</tr>
</tbody>
</table>

*LP = Learning Package*

Table 7(A)2(iii) Overview of the Quantitative Data Collected from the First (Group A) and Third (Group C) Groups of Student Nurses Who Used the Orthopaedic Learning Package
<table>
<thead>
<tr>
<th>No.</th>
<th>Satisfaction %</th>
<th>Weeks on Ward</th>
<th>Total Time Study on LP</th>
<th>Hours Per Week Study on LP</th>
<th>Hours Per Week Study at Home</th>
<th>% of Sects. Completed in LP</th>
<th>Pre-Test Score</th>
<th>Post-Test A Score</th>
<th>Post-Test B Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>43%</td>
<td>4</td>
<td>16H 44M</td>
<td>4H 11M</td>
<td>4H 11M</td>
<td>72%</td>
<td>63%</td>
<td>73%</td>
<td>84%</td>
</tr>
<tr>
<td>5</td>
<td>53%</td>
<td>4</td>
<td>12H 28M</td>
<td>3H 07M</td>
<td>3H 07M</td>
<td>60%</td>
<td>60%</td>
<td>82%</td>
<td>73%</td>
</tr>
<tr>
<td>6</td>
<td>38%</td>
<td>4</td>
<td>16H 44M</td>
<td>4H 11M</td>
<td>4H 11M</td>
<td>74%</td>
<td>69%</td>
<td>90%</td>
<td>81%</td>
</tr>
<tr>
<td>7</td>
<td>15%</td>
<td>4</td>
<td>3H 24M</td>
<td>51M</td>
<td>3H 11M</td>
<td>18%</td>
<td>54%</td>
<td>69%</td>
<td>75%</td>
</tr>
<tr>
<td>8</td>
<td>57%</td>
<td>4</td>
<td>17H 20M</td>
<td>4H 25M</td>
<td>4H 25M</td>
<td>94%</td>
<td>57%</td>
<td>97%</td>
<td>76%</td>
</tr>
<tr>
<td>9</td>
<td>57%</td>
<td>4</td>
<td>6H 08M</td>
<td>1H 28M</td>
<td>1H 28M</td>
<td>44%</td>
<td>88%</td>
<td>97%</td>
<td>90%</td>
</tr>
<tr>
<td>10</td>
<td>56%</td>
<td>4</td>
<td>10H 00M</td>
<td>2H 30M</td>
<td>2H 30M</td>
<td>64%</td>
<td>54%</td>
<td>81%</td>
<td>64%</td>
</tr>
<tr>
<td>11</td>
<td>48%</td>
<td>4</td>
<td>6H 24M</td>
<td>1H 36M</td>
<td>1H 36M</td>
<td>56%</td>
<td>75%</td>
<td>90%</td>
<td>78%</td>
</tr>
<tr>
<td>12</td>
<td>42%</td>
<td>4</td>
<td>9H 28M</td>
<td>2H 22M</td>
<td>2H 22M</td>
<td>80%</td>
<td>64%</td>
<td>84%</td>
<td>72%</td>
</tr>
<tr>
<td>13</td>
<td>42%</td>
<td>4</td>
<td>12H 28M</td>
<td>3H 07M</td>
<td>3H 07M</td>
<td>88%</td>
<td>66%</td>
<td>93%</td>
<td>78%</td>
</tr>
<tr>
<td>14</td>
<td>42%</td>
<td>4</td>
<td>2H 45M</td>
<td>41M</td>
<td>1H 56M</td>
<td>28%</td>
<td>63%</td>
<td>78%</td>
<td>81%</td>
</tr>
<tr>
<td>15</td>
<td>63%</td>
<td>4</td>
<td>9H 20M</td>
<td>2H 20M</td>
<td>2H 47M</td>
<td>68%</td>
<td>81%</td>
<td>93%</td>
<td>97%</td>
</tr>
<tr>
<td>17</td>
<td>24%</td>
<td>4</td>
<td>10H 52M</td>
<td>2H 43M</td>
<td>5H 36M</td>
<td>80%</td>
<td>63%</td>
<td>85%</td>
<td>82%</td>
</tr>
<tr>
<td>18</td>
<td>38%</td>
<td>4</td>
<td>8H 2H</td>
<td>2H</td>
<td>48%</td>
<td>60%</td>
<td>84%</td>
<td>78%</td>
<td></td>
</tr>
<tr>
<td>19</td>
<td>38%</td>
<td>4</td>
<td>7H 00M</td>
<td>1H 45M</td>
<td>1H 45M</td>
<td>36%</td>
<td>67%</td>
<td>87%</td>
<td>69%</td>
</tr>
</tbody>
</table>

\( \text{LP} = \text{Learning Package} \)

Table 7(A)2(iv) Overview of the Quantitative Data Collected From the Second Group (Group B) of Student Nurses Who Used the Orthopaedic Learning Package
<table>
<thead>
<tr>
<th>No.</th>
<th>Satisfaction %</th>
<th>Weeks on Ward</th>
<th>Total Time Study on LP</th>
<th>Hours Per Week Study on LP</th>
<th>Hours Per Week Study at Home</th>
<th>% of Sects. Completed in LP</th>
<th>Pre-Test Score</th>
<th>Post-Test A Score</th>
<th>Post-Test B Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>54%</td>
<td>8</td>
<td>11H 28M</td>
<td>1H 26M</td>
<td>1H 41M</td>
<td>88%</td>
<td>57%</td>
<td>76%</td>
<td>Left</td>
</tr>
<tr>
<td>2</td>
<td>76%</td>
<td>8</td>
<td>13H 20M</td>
<td>1H 40M</td>
<td>1H 40M</td>
<td>76%</td>
<td>57%</td>
<td>75%</td>
<td>82%</td>
</tr>
<tr>
<td>3</td>
<td>33%</td>
<td>8</td>
<td>12H 56M</td>
<td>1H 37M</td>
<td>1H 37M</td>
<td>62%</td>
<td>66%</td>
<td>84%</td>
<td>76%</td>
</tr>
<tr>
<td>4</td>
<td>44%</td>
<td>8</td>
<td>23H 20M</td>
<td>2H 55M</td>
<td>2H 55M</td>
<td>92%</td>
<td>60%</td>
<td>84%</td>
<td>79%</td>
</tr>
<tr>
<td>5</td>
<td>80%</td>
<td>8</td>
<td>18H 00M</td>
<td>2H 15M</td>
<td>2H 15M</td>
<td>48%</td>
<td>42%</td>
<td>69%</td>
<td>82%</td>
</tr>
<tr>
<td>6</td>
<td>92%</td>
<td>8</td>
<td>21H 12M</td>
<td>2H 39M</td>
<td>2H 39M</td>
<td>76%</td>
<td>45%</td>
<td>70%</td>
<td>69%</td>
</tr>
<tr>
<td>7</td>
<td>81%</td>
<td>8</td>
<td>8H 48M</td>
<td>1H 06M</td>
<td>1H 06M</td>
<td>76%</td>
<td>66%</td>
<td>88%</td>
<td>81%</td>
</tr>
<tr>
<td>8</td>
<td>56%</td>
<td>8</td>
<td>22H 30M</td>
<td>2H 48M</td>
<td>2H 48M</td>
<td>88%</td>
<td>45%</td>
<td>67%</td>
<td>57%</td>
</tr>
<tr>
<td>9</td>
<td>88%</td>
<td>8</td>
<td>19H 4M</td>
<td>2H 23M</td>
<td>2H 23M</td>
<td>76%</td>
<td>48%</td>
<td>76%</td>
<td>54%</td>
</tr>
<tr>
<td>10</td>
<td>73%</td>
<td>8</td>
<td>lost diary</td>
<td></td>
<td></td>
<td></td>
<td>lost work book</td>
<td>61%</td>
<td>64%</td>
</tr>
<tr>
<td>11</td>
<td>67%</td>
<td>8</td>
<td>15H 36M</td>
<td>1H 57M</td>
<td>1H 57M</td>
<td>32%</td>
<td>57%</td>
<td>63%</td>
<td>Left</td>
</tr>
<tr>
<td>12</td>
<td>75%</td>
<td>8</td>
<td>15H 20M</td>
<td>1H 55M</td>
<td>1H 55M</td>
<td>76%</td>
<td>58%</td>
<td>81%</td>
<td>67%</td>
</tr>
</tbody>
</table>

LP = Learning Package

Table 7(A)2(v) Overview of the Quantitative Data Collected From the Pupil Nurses Who Used the Orthopaedic Package
**UNIVERSITY STUDENTS QUANTITATIVE DATA**

| No. | Satisfaction % | Weeks on Ward | Total Time Study on LP | Hours Per Week Study on LP | Hours Per Week Study at Home | % of Sects. Completed in LP | Pre-Test Score | Post-Test A Score | Post-Test B Score |
|-----|----------------|---------------|------------------------|-----------------------------|-------------------------------|-----------------------------|----------------|----------------|----------------|----------------|
| 1   | 74%            | 5             | 27H 25M                | 5H 35M                      | 6H 14M                        | 96%                         | 69%            | 93%            | 88%            |
| 2   | 39%            | 5             | 13H 40M                | 2H 44M                      | 3H 8M                         | 96%                         | 69%            | 88%            | 73%            |
| 3   | 81%            | 6             | 16H 42M                | 2H 47M                      | 7H 44M                        | 100%                        | 75%            | 97%            | 94%            |
| 4   | 81%            | 6             | 15H 0M                 | 2H 30M                      | 11H 2M                        | 96%                         | 69%            | 93%            | 79%            |
| 5   | 42%            | 8             | 16H 30M                | 1H 58M                      | 2H 59M                        | 100%                        | 66%            | 78%            | 84%            |
| 6   | 51%            | 8             | 9H 44M                 | 1H 13M                      | 2H                            | 90%                         | 66%            | 96%            | 91%            |
| 7   | 54%            | 6             | 24H 06M                | 4H 01M                      | 4H                            | 96%                         | 73%            | 85%            | 85%            |

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
</tr>
</thead>
</table>

**LP** = Learning Package

**Table 7(A)2(vi)** Overview of the Quantitative Data Collected From The University Students Who Used The Orthopaedic Learning Package

**Column (10)** Post-Test B. This is the result of the test given approximately 6 months after leaving the orthopaedic ward.
AVERAGES / RANGES FOR PREVIOUS TABLES

### Amount of Package Completed

<table>
<thead>
<tr>
<th></th>
<th>Average</th>
<th>Range</th>
<th>n</th>
</tr>
</thead>
<tbody>
<tr>
<td>University</td>
<td>96%</td>
<td>90% - 100%</td>
<td>7</td>
</tr>
<tr>
<td>Pupils</td>
<td>71%</td>
<td>32% - 92%</td>
<td>12</td>
</tr>
<tr>
<td>Students A</td>
<td>55%</td>
<td>50% - 58%</td>
<td>3</td>
</tr>
<tr>
<td>Students B</td>
<td>60%</td>
<td>18% - 94%</td>
<td>15</td>
</tr>
<tr>
<td>Students C</td>
<td>45%</td>
<td>16% - 76%</td>
<td>12</td>
</tr>
</tbody>
</table>

### Total Hours Spent Working on the Package

<table>
<thead>
<tr>
<th></th>
<th>Average</th>
<th>Range</th>
<th>n</th>
</tr>
</thead>
<tbody>
<tr>
<td>University</td>
<td>17½ Hours</td>
<td>10 - 27 Hours</td>
<td>7</td>
</tr>
<tr>
<td>Pupils</td>
<td>16½ Hours</td>
<td>9 - 23 Hours</td>
<td>12</td>
</tr>
<tr>
<td>Students A</td>
<td>14 Hours</td>
<td>12 - 18 Hours</td>
<td>3</td>
</tr>
<tr>
<td>Students B</td>
<td>9½ Hours</td>
<td>7 - 17 Hours</td>
<td>15</td>
</tr>
<tr>
<td>Students C</td>
<td>10 Hours</td>
<td>2 - 19 Hours</td>
<td>12</td>
</tr>
</tbody>
</table>

### Hours Per Week Spent Working on the Package

<table>
<thead>
<tr>
<th></th>
<th>Average</th>
<th>Range</th>
<th>n</th>
</tr>
</thead>
<tbody>
<tr>
<td>University</td>
<td>2.73 Hours</td>
<td>1.0 - 5.5 Hours</td>
<td>7</td>
</tr>
<tr>
<td>Students</td>
<td>2.43 Hours</td>
<td>0.5 - 4.5 Hours</td>
<td>30</td>
</tr>
<tr>
<td>Pupils</td>
<td>1.77 Hours</td>
<td>1.0 - 2.5 Hours</td>
<td>11</td>
</tr>
</tbody>
</table>

Table 7(A)2(vii) Summary of Quantitative Data from Tables 7(A)2(iii) - (vi)
These data are included here to refer to alongside the comments made by the student and pupil nurses concerning their feelings about the amount of time they had to work on the learning package.

The following comments are representative of those learners who felt that they did not have enough time to do the work (42%). Table 7(A)2(ii) shows very clearly that this was the main negative comment which was expressed, particularly by the student nurses who only spent one month on the ward.

S22 "It was quite good, except I thought it was too much for us to do in four weeks, it sort of got us so bogged down that you really did not look forward to doing it in the end."

S22 Spent 4 hrs 8 minutes working on the package. Only completed 34% of the sections.

S1 "...I thought 'I'll do that' and 'Oh I'll do that as well', and I wanted to, I just didn't have time."

S1 Spent 12 hrs working on the package. Completed 50% of the sections.

S26 "Well, I thought it was hard work, I thought it's a lot to pack into that time..." Went on to say it was helpful and was wanted on other wards.

S26 Spent 16 hrs 48 minutes working on the package. Completed 56% of the sections.

S13 "I found it a bit much in 4 weeks."

S13 Spent 12 hrs 28 mins working on the package. Completed 88% of the sections.

S29 "It would have been easier if we had had eight weeks to do the work."

S29 Spent 10 hrs 32 mins working on the package. Completed 76% of the sections.
S19 "I needed more time to do it, 8 weeks would have been about right."

S19 Spent 7 hrs working on the package. Only completed 36% of the sections.

S20 "I don't think you could do it all in 4 weeks, I would have liked more time, I would have liked to have done more."

S20 Spent 12 hrs 28 mins working on the package. Completed 56% of the sections.

A few students said they started off thinking that the work was going to be too much to do but they did not feel so bad once they got started:

S16 "It looked at first as if it was going to be a lot to get through in 4 weeks, but it didn't work out so badly when you sat down and organised it, O.K. I didn't get through all the articles, at first it was a bit daunting."

S16 Spent 9 hrs 20 mins working on the package. Completed 68% of the sections.

S27 "I was overwhelmed at the beginning but it's not so bad once you've got going, when you've done it you feel a lot better for doing it, you know you're glad you've had to do it."

S27 Spent 9 hrs 40 mins on the package. Completed 56% of the sections.

Certainly the group of students who had the greatest problem with the time were the ones who were allocated to the ward for the final month of the unit just before the study block (see Chapter 7(A)1, Figure 7(A)1(xiv) Group D). Not only were this group tired after working for three months in high activity areas, they were also likely to have a backlog of work assignments from previous allocations and also had to revise for the end of unit exam.

S18 "...we could have learnt from this but I just couldn't, I was getting so worried as to how much work I should do, how much work, whether I should sort of do as much as I could or whether to try and battle through and get it all done as well on top of the sort of work for the exam."
S18 Spent 8 hrs 4 mins working on the package.
Completed 48% of the sections.
Wrote one 30-minutes practice essay in revision
for the exam in addition to work on package.

The Clinical Teacher who helped to run the project
had also observed the difficulties experienced by the group
of students who came to the orthopaedic wards at the end
of the unit.

CT2 "I think those who come to us last are possibly
the ones where you find more, if not negative,
tending towards negative feelings about the
package. Most of them because they've let other
interblock work lapse and they want to catch up
on that, or they feel they have got enough to do
revising for the exams."

These comments relating to there being too little time
to complete the work correlate with findings by Willoughby
and Boud (1973) and Logue (1984) (see Chapter 2.3 b(4))
which show that overloading of courses can contribute towards
procrastination and/or added anxiety for the student especially
if mastery is expected by all the group. In fact mastery
by all the group was not expected in this project and because
of students' comments we were very careful to stress this
more and more as time went on. However at the same time
we encouraged students to choose the sections of the package
which they felt were most relevant for them.

Willoughby and Boud (1973) also stress that they found
that most distance learning courses contain more material than
it is reasonable to expect an average or below average student
to really master. On examination of Table 7(A)2(vi) it can
be seen that all the University Students (above average for
all three groups) completed 90% or more of the sections in
the package. Although they all had at least a week longer
than the student nurses to do the work, they all did a lot of
study in addition to the work in the package, e.g.:--
<table>
<thead>
<tr>
<th>Number</th>
<th>Hours per week study on package</th>
<th>Total hours per week study</th>
</tr>
</thead>
<tbody>
<tr>
<td>U3</td>
<td>2 hrs 47 mins</td>
<td>7 hrs 44 mins</td>
</tr>
<tr>
<td>U4</td>
<td>2 hrs 30 mins</td>
<td>11 hrs 2 mins</td>
</tr>
</tbody>
</table>

The fact that the University Students were used to doing more study on their own than the other two groups, both when they were at school and since they started nursing, which was established in Section A(d) of this chapter would appear to be significant. None of them complained that they had too much work to do while they had the package although one student (U6) said "it took quite a lot of time".

As many as nine (29%) of the student nurses managed to complete 60% or more of the sections in the package in a month (S4, 5, 6, 8, 10, 12, 13, 17, 29). Out of a group of 31 students it would seem reasonable to suppose that 9 of them were above average in which case this would agree with the findings of Willoughby and Boud (1973). However in this case I feel it represents motivation to work as much as intellectual capacity.

The actual size of the learning package and the large amount of materials which were issued all at one time were very daunting for a few learners:

P12 "We weren't too keen suddenly being faced with this great big sack and sort of everybody giving you sympathetic looks as you walked along."

Q "Do you think they gave you sympathetic looks because they have been through it themselves or because they....."

P12 "Oh, I think they said 'you have got the dreaded orthopaedic bag!'" (both laugh)

However this pupil felt she would work through a similar amount of work if she was given this much again.

later

P12 "It was very good really, I found it very helpful."
"We moaned between ourselves about the weight of the blinking bag!"

"So it was quite a problem?"

"I had nice arm ache by the time I got to the top of G Block, it's a long way in the rain!"

later however

"....I mean probably having the bag is the best way, actually getting people who are not well motivated to work."

"I think we all found it very overwhelming at first, the amount I mean, the big bag...."

"The physical amount you mean?"

"The physical amount, you thought 'Oh blimey, what am I going to be doing for the next six weeks,' but I found that when I actually started to tackle it, it wasn't as bad as I thought."

"Is this something other students have mentioned?"

"Yes, I think everybody has said 'Oh not Ann Wickenden's big bag!'" (Both laugh)

The original idea had been to issue the work to the student one section at a time but it was felt to be too difficult to administrate when the students were all working on different shifts. It would also have taken away the element of choice about the order in which the students approach the work. The weight of the package was reduced for those learners who possessed their own cassette players, which in fact proved to be the majority.

Remarks indicating that the work in the package was too difficult/complex/deep came mostly from the pupil nurses and related mainly to the anatomy and physiology.

"I found it a bit hard, some of the anatomy and that."

"In what way did you find it hard?"

"It sort of went into great detail, some of it."

"Yes, can you remember which bits particularly?"

"That little hip joint book, er."
"So, did it worry you, that?"

"Well, I couldn't really understand, you know, I don't really understand that much anatomy, you know in that depth."

"I thought there was quite a lot there, I don't know if anyone else has felt the same, some of it, you know, I thought there was a lot of detail for what we (Pupil Nurses) needed to know for our course."

P8 felt this related particularly to the anatomy and physiology in the programmed texts.

"I found some of the topics a bit high-faluting to what our training's aimed at."

I included the fact that some of the Pupil Nurses may find the Anatomy and Physiology too difficult on Page 1 of the "Teachers Guide" (see Appendix 5).

"Some of the Pupil Nurses may find the Anatomy and Physiology revision to be at too great a depth in which case they should be advised to use their own text book." Teachers Guide (page 1)

Both the Nurse Tutors whom I interviewed agreed that some of the pupil nurses did find some of the work difficult.

"I think it is the pupil nurses particularly have said, they're the only ones that have really expressed their feelings that they find it very hard work."

later

"I did get the impression, and it's only an impression that it's probably the anatomy side that they see as most hard work."

NT1 felt that the first group of pupils who used the package were rather disappointed that they had not received more praise for doing work which they considered was aimed more at the student nurses.
"The general comment was (from the pupil nurses) that it was hard work, which they found difficult when they were on night duty, which of course they are during the orthopaedic time. They felt that it was good that they had been asked to do it, although they felt perhaps it was more - it related more to students - but they felt pleased that they'd been included in it...."

later

"Having found it difficult, they felt they needed more praise as to being successful, because they all felt they achieved a lot in doing it."

later

"I should say however the group are very sensitive about their position as pupils vis-à-vis students and how everybody reacts to them .... so that's a whole issue that they as a group are very sensitive about anyway."

P3 and P4 are both in this group. They are both quoted in Section A(1)g(v)b of this chapter which illustrates the dissatisfaction that some of the pupil nurses feel when comparing their own course with that of the student nurses. This is a perennial problem and one which has never been solved under the current system of nurse education.

A few learners mentioned that they were unable to use the learning package to the best advantage as they were too tired, either due to night duty or the heavy work on the ward.

S1 "The ward wore me out .... I'm not eating or sleeping properly - it's just the end of the unit, we are all like that. Physically tired and restless - couldn't settle to do things."

Q "So what do you think made it (working on the package) become a bind towards the end?"

P7 "I was tired, it catches up with you I think."

Q "The night duty?"

P7 "Yes, and sort of little bits and bobs that maybe I'd left or something, you know I had to go back."
later

Q "Do you think it is the night duty or the amount you had to do?" (which made it a bind)

P7 "It's being on night duty I think, you sort of wish you could get to sleep and you wake up and you think 'Oh, I've got to do some work'."

Two of the clinical teachers also mentioned how tired some of the students and pupils were.

CT2 (Day Duty) "They find when they come off the wards at night, they're tired, and all they want to do is to kick off their shoes and flop out, so to speak, and not to be bothered with anymore work, let alone study." (Laughs)

Q "This is on late shifts, or either-both shifts?"

CT2 "Either, because they find the work, on both the wards, heavy, I think physically."

CT2 said four or five of the students had complained that this was the heaviest ward they had ever worked on.

CT1 (Night Duty) "The pressure of work at night is very great, it makes learning difficult. The pupils get very tired."

These comments support the findings of a survey by Jones (1985) who found that learners were not benefitting as much as they could from night duty. She stressed the importance of the counselling role of the teacher and states:

"This is particularly important at night where the problems and anxieties interfering with learning may be greater exacerbated by lack of sleep." p 36

One student was very adamant that she did not like this method of learning at all, particularly in relation to practical skills:

S22 "I prefer to do things practically, like all the moving of patients, I didn't really get the hang of all that, I much prefer to have somebody to go round the ward and just sit there with a patient if they don't mind and show us how to do it then, because then we have got the patient
there, whereas you can't practise when you
have got a tape slide and I found that really
difficult, I couldn't get the hang of that at all."

The student felt the use of distance learning was appropriate
for the theoretical component such as the anatomy and
physiology but not for the practical aspects.

Q  "So would you say as a person you prefer learning in
groups to learning on your own?"

S22  "Yes, I do. I prefer learning practically
rather than theoretically as well because it sinks
in with me, it's much easier."

Q  "Do you think it is the effect of the other people?"

S22  "I think you get a bit of motivation from them as
well, with them, whereas if it's left up to you,
you can say 'Oh, another 10 minutes and I'll start
doing something', whereas if you've got a group of
you, they're all going to do it together."

CT2 had also observed this point.

"One or two have said it is not the way they
like to learn. From what I can gather they
prefer to sit in a classroom and have people
talk to them, rather than being left to their
own devices to go off and learn for themselves,
or do most of it for themselves."

later

Q  "Any other reasons (why) they've thought it's
too much, or they weren't so keen on it?"

CT2  "I think those who haven't really been very
interested in Orthopaedic Nursing."

Q  "So they have not been interested in the subject?"

CT2  "Ones that I've got the impression of that
they've not been interested in the subject, they've
also been ones that seem not to have done too
much and haven't really shown much interest."

S28 admitted that she did not like the ward or the
subject and for these reasons said "I just didn't want to
learn." She felt it would have been better to use the
learning package on a general medical or surgical ward:-

"Orthopaedics is too specialised and may not
come up in the exam."
This is a valid point. However as has been stated in Chapter 4.2 one of the reasons for choosing orthopaedics was because it was a specialised subject and would therefore lend itself to a distance learning approach.

During my interview with CT2 I tried to establish what proportion of the students and pupils, in her opinion, had expressed negative feelings towards using the learning package. It was CT2 who, apart from myself, was the teacher most involved with the running and organisation of the project.

CT2 "Well, I suppose if five, four or five have been negative (out of 50) that would be 10%, wouldn't it?"

CT2 had observed, "Those with negative feelings were a lot more expressive, a lot more verbal....they've been the ones that have always come up to me and grumbled about it."

Q "Yes, and have they come up voluntarily, or was it usually when you brought it up?"

CT2 "Sometimes voluntarily and sometimes when it's been brought up. But the ones that have always been very positive have never actually come up and said, 'Oh I'm really enjoying it'. They're the ones that I have to ask, and then it all comes out, how much they really are enjoying it."

earlier

"There are definitely more with positive feelings."

A(2)c Summary of the general feelings expressed by the student and pupil nurses who used the learning package

This section of the chapter has described and discussed the feelings expressed by student and pupil nurses concerning the use of the learning package when they were allocated to the orthopaedic wards. Although both negative and positive feelings were expressed there was a predominance of the latter.

Members of all three groups particularly liked the structure and format of the work in the learning package. They liked the direction it gave to their work and enjoyed having definite guidelines. They appreciated having all the
learning materials together and the fact that they could take them home.

Many representatives from all three groups commented on their increased motivation to work using this method of learning. Many of the student nurses and university students said that it was an "interesting" way to learn and that they "took more in" this way. The pupil nurses were more likely to say that they "enjoyed" the work and found it "helpful".

Representatives from all three groups said how much they liked using a variety of media for learning. Some of the students and university students commented that the information that they had learnt from the package had helped them to give better care to the patients and that it had given them more confidence in their practical work.

Some of the teachers remarked that due to their increased knowledge of the subject quite a large proportion of learners had expressed a desire to return to orthopaedic nursing when they had finished their training. One of the nurse teachers had observed that he was getting far fewer complaints from learners concerning lack of teaching on the orthopaedic wards compared with the time before the learning package was introduced. Learners now felt that they got a lot of support and teaching although a lot of it was self-generated.

The main negative feeling which was expressed towards the use of the learning package was that there was too much work to cover in the allotted time. As a group the student nurses felt this particularly as they only had one month on the ward. This problem was the most acute for the group of students who were allocated to orthopaedics at the end of the Trauma Unit, immediately before study block. Not only were they physically tired and also needed to study for their end of unit exam, but several of them had a back log of work from other clinical areas.

Data collected from the learners' self report diaries and workbooks showed that both the amount of time spent working on the package and the amount of work which was completed varied considerably both within and between groups.
The University students spent the most amount of time studying the learning package and completed the most work, with the whole group finishing 90% or more. None of them really complained that they had too much work to do. The other two groups, particularly the students, were very variable in both the amount of time they spent studying the learning package and in the amount of work they completed. A few did complete 80-90% of the work whilst at the other extreme some only managed 20-30%.

A few learners commented that they were initially overwhelmed by the physical size of the learning package and that they found it heavy and difficult to handle. However many agreed that once they started to do the work they "did not feel so bad".

Some of the pupil nurses found that certain sections of the work in the package, particularly the anatomy and physiology, were too complex for them and that they considered it more suitable for student nurses.

A few learners felt unable to use the learning package to best advantage because they were too tired, either due to night duty or because the ward work was particularly heavy, or both.

One student mentioned that she did not enjoy this method of learning, particularly in relation to practical topics, and that she preferred to learn in a group. Another one did not like the subject of orthopaedics and did not enjoy working on the ward and was therefore not very well motivated to study the learning package.

The Clinical Teacher who helped to run the project observed that the nurses who made negative comments were a lot more expressive than the rest of the group who tended only to make remarks when questioned. She felt that only about 10% of the total group had expressed negative feelings to her concerning their use of the learning package. She found that by far the majority made positive, appreciative comments.
The most common type of work assignment, in relation to clinical practice, which had been given to all three groups of learners before they used the learning package was the completion of a patient care study. With varying amounts of guidance from their tutors the learners were asked to choose one of the patients whom they were caring for on the ward and to describe their needs and problems followed by a discussion on the planning, implementation and evaluation of their nursing care. A few of the tutors would issue guidelines for these assignments, particularly during the learners' first year of training. Later on however, in the majority of cases learners were expected to organise their own work.

The previous section of this chapter stresses how much the learners in my project appreciated having a definite framework and structure to work from in the learning package. For the majority this was a very different strategy from doing a case study.

Mention is also made in the previous section that in many cases the learners remarked that their motivation to work was increased when they were issued with the learning package.

P1  "It gave me incentive to work."
P6  "It encouraged us to do work."
P8  "It gives you a bit of enthusiasm to sort of learning."
S1  "The more you get into it the more I wanted to learn of this work. You get interested because there is an end sort of. A light at the end of the tunnel. You feel as if you are making progress."
S2  "It made me very conscientious."
S8  "It's very stimulating and made me think about it."
S11 "It certainly pushes you a bit."
"It sort of got the incentive going so you had the motivation there to actually get on and do something."

I was interested to ascertain what effect, if any, this structured method of learning and increased motivation to work had on the students' and pupils' study patterns. The following quotations include comments from all three groups of learners on this topic:

**University Students**

Q  "Compared with other types of ward related work, do you think you've worked more this time or less or about the same?"

U7  "I've worked, not more, but more steadily put it that way, because I felt that I had to start at the beginning, I mean it wasn't the sort of thing you could do right at the last minute, because if you're going to gain anything from it I felt you had to start at the beginning and work gradually through".

later

"With a case study on another ward perhaps you get the notes towards the end of the allocation and then perhaps start to write it at the last week or even after you've finished the ward. It would take me a week to do, working a few hours a night. Now with the tape slides, I'd perhaps do the odd hour sort of every other night or whatever and work more steadily."

Q  "So would you say that was a useful aspect of it: you can actually just spend a few minutes."

U3  "Yes, I found I tended to do a lot more because I knew I could do something in a short time, whereas if you know you've got a case study to write, it's not something you can pick up and put down in ten minute intervals. You know you've got to have a reasonable amount of time to sit at it."

This student felt that an hour-and-a-half was the minimum amount of time needed to "get stuck in" to work on a case study.
Student Nurses

S25 "I did more." (study)

Q "How much more would you say, how much more would it feel like?"

S25 "A lot more, because I seemed to be working through the whole time, not the whole time, but sort of each day I should think, I did at least half an hour, it would sort of worked out at."

Q "So how different is that from your usual pattern, let's say before this?"

S25 "Well before this it would just be sort of random, say once a week, get out and do two hours work straight off, but this would be after sort of putting it off for a few days."

Q "So in fact you changed from doing say one lump a week perhaps to doing a little bit each day?"

S25 "Yes."

Q "And how do you feel about that, does it have an effect on you working in a different way?"

S25 "Yes, because I think by doing little bits it keeps you motivated, whereas just doing one bit you sort of begrudge it and it's a right sort of toil and you think I've got to get down to it and you just put it off and off, and maybe that one week would sort of go into the next week, whereas this you're constantly doing it."

S31 "It spreads the work out more doing it this way, it's not all left to a panic at the end."

S20 "Normally I would do sort of, leave it all until the end and do it all in one mad rush at the end, but I spread it over the weeks this time."

Q "And did you prefer to do that?"

S20 "Yes, much better."

S29 "Because I knew there was more work to do I sort of got stuck into it perhaps a bit earlier than what I would have done."

later

"I think I put more enthusiasm into it."
Pupil Nurses

Q  "Do you think it (the package) made any difference to the pattern of your work?"

P12  "Yes I did, I started when I first started on the ward and worked gradually through."

Q  "Do you think you feel more satisfied with that than doing it in a lump at the end?"

P12  "Yes, I think you learn more really because I found that if I've got a case study to write, you don't start in your first or second week because you don't really know the patient that well."

Q  "Do you think the actual amount of time you've spent studying this time compared with other times, has been that different or about the same?"

P9  "Increased, yes I've probably done more study actually, because when I've had to do a case study I've normally sort of waited until perhaps the last two weeks of my ward and then I've got the notes of the patient and sort of spent perhaps two weeks with it, or even a week and done it very concentrated in one go."

later

"With the package I started working in the first week because I thought I'd have to get going."

Q  "Do you think that is a better way of study, more helpful?"

P9  "I think it's better just to get going like that but I suppose you have got to sort of feel you want to get going, you know I don't normally with things."

Q  "What do you think made you feel that way this time?"

P9  "Well because I didn't think I would be able to manage it all."

Q  "I see, so it was the amount really."

P9  "Yes, and also I was, I mean I've never looked at tape slides and things like that before and it was something new and I was quite interested as well, it wasn't only the amount."
This pupil did not think that the novelty value of having a variety of learning media would wear off if a similar package was provided in every area.

The above comments indicate that learners from all three groups started to work sooner when they were issued with the learning package than they had with previous work assignments. They also worked more consistently throughout their allocation, and as all their learning materials were readily available and the work was broken down into specific units felt that it was worth doing some study even if they only had a short time to spare.

These findings support those of Boud, Bridge and Willoughby (1975) who found that students using P.S.I. were likely to develop different study habits from those used in more traditional courses and that these changed study habits were generally useful (see Chapter 2.3 b(9)). They also correlate with Bridge's (1977) findings that students following individual study courses would undertake study on more separate occasions than any other course and that the time spent in doing these sessions was shorter than in other subjects taught by traditional methods.

7(A)4 THE LEARNERS' EVALUATION OF THE INDIVIDUAL COMPONENTS OF THE PACKAGE, WORKBOOKS, TYPES OF MEDIA USED, TESTING

Although Section A(2) of this chapter does give some indication of the learners' feelings concerning the various components of the orthopaedic learning package I felt it important to devote a separate section to this aspect of the project to illuminate some of the findings more clearly. I collected a great deal of data on each of these components and am therefore able to give a detailed account of the learners' reactions in each case.

a) The Workbook/Study Guide

Each learner was issued with their own workbook/study guide a few days before they came to work on the orthopaedic
wards (see Appendix 4). They were advised to read through the introduction to the book (page 1) and the Ward Profile (pages 2 and 3) as soon as possible and not to start working on the package until they had done so.

The vast majority of subjects in all three groups said they were able to follow the directions in the study guide without any problems:

**Student Nurses**

S2 "It's straight-forward and it tells you what you've got to do."

S4 "No, that (study guide) was fine, no problems there."

S14 "It's all very straight-forward."

S30 "It's pretty clear on the whole."

**Pupil Nurses**

P6 "It was good, it was easy to follow. Everything was all written out for you nicely."

P10 "That was very - it told you, it made it very clear."

**University Students**

U1 "It was pretty clear, the working, all the way through."

U3 "I found it very clear, I had no problems following it at all."

There were however one or two students who rushed into starting the tape/slide programmes before they read the study guide and were consequently rather confused about how to proceed.

S12 "When I got down to really looking at it (the study guide), I thought, oh help, it all seemed rather, you know, that I sort of didn't quite know what I was doing, I wasn't quite sure when to do these tests and things."

S10 "I started doing all the tape/slides and I didn't realise that you had to do all these questions."

One of the pupil nurses was rather overawed with having the work book to complete as well as the self report diary
and the evaluation sheets needed to collect the research data.

P2 "I was a bit lost at first, it was filling in all the bits of paper - the diary, I was getting in a bit of a panic."

As educational time had to be borrowed from service time in order to explain the mechanics of the learning package to the students, on several occasions there were only a few minutes for discussion before handing it over. Visits from the teacher or advice from the ward staff usually sorted out any misunderstandings or queries quite early, although sometimes initial enthusiasm and motivation may have been suppressed by some confusion and anxiety.

A(4)b) The Self-Instructional and Programmed Texts

The learning package contained one self-instructional text book on the Locomotor System and two programmed texts, one on the hip joint and one on the healing of fractures. The learners were asked to fill in evaluation sheets (see Appendix 14) after they had completed these texts. I also included questions about their use in my final interview. As reactions to the Self-Instructional Text differed in some instances from the programmed texts I propose to discuss them separately.

A(4)b(i) "Anatomy and Physiology: A Self-Instructional Course. Locomotor System and Special Senses." Ralph Richards and David F. Chapman

Tables 7(A)4(i)-(iii) give a synopsis of the evaluation sheets which the various groups completed relating to this Self-Instructional Course. The University Students completed all their evaluation sheets and covered all the sections in the work book. Fifty-eight per cent (58%) of the pupil nurses completed the evaluation sheets and of these the majority (71%) completed all the sections in the work book. Only thirty-six per cent (36%) of the student nurses filled in their evaluation
Table 7(A)4(i) "Anatomy and Physiology. A Self-Instructional Course. Locomotor System and Special Senses."
Ralph Richards and David F. Chapman

Evaluation by University Students

<table>
<thead>
<tr>
<th>Number of Sections Completed</th>
<th>Time Taken</th>
<th>Number of Sessions</th>
<th>Other Text Used</th>
<th>Bones/Models Used</th>
<th>Tape/Slides Used</th>
<th>ENJOY</th>
</tr>
</thead>
<tbody>
<tr>
<td>U1</td>
<td>5</td>
<td>2hrs</td>
<td>1</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>U2</td>
<td>5</td>
<td>2hrs</td>
<td>3</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>U3</td>
<td>5</td>
<td>2½hrs</td>
<td>2</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>U4</td>
<td>5</td>
<td>2½hrs</td>
<td>1</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>U5</td>
<td>5</td>
<td>2hrs</td>
<td>1</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>U6</td>
<td>5</td>
<td>5hrs</td>
<td>3</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>U7</td>
<td>5</td>
<td>2½hrs</td>
<td>3</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Question</td>
<td>1</td>
<td>2</td>
<td>3a</td>
<td>4a</td>
<td>4b</td>
<td>4c</td>
</tr>
</tbody>
</table>

See Appendix 14(1) for example of the evaluation sheet
Table 7(A)4(ii) "Anatomy and Physiology. A Self-Instructional Course. Locomotor System and Special Senses"
Ralph Richards and David F. Chapman

Evaluation by Pupil Nurses (n = 7)

<table>
<thead>
<tr>
<th></th>
<th>Number of Sections Completed</th>
<th>Time Taken</th>
<th>Number of Sessions</th>
<th>Other Texts Used</th>
<th>Bones/Models Used</th>
<th>Tape/Slides Used</th>
<th>ENJOY</th>
</tr>
</thead>
<tbody>
<tr>
<td>P1</td>
<td>4</td>
<td>2 hrs</td>
<td>1</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>x</td>
</tr>
<tr>
<td>P3</td>
<td>3</td>
<td>3 hrs</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>x</td>
</tr>
<tr>
<td>P4</td>
<td>5</td>
<td>3 hrs</td>
<td>2</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>x</td>
</tr>
<tr>
<td>P7</td>
<td>5</td>
<td>2½ hrs</td>
<td>5</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>x</td>
</tr>
<tr>
<td>P8</td>
<td>5</td>
<td>?</td>
<td>?</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
<td>x</td>
</tr>
<tr>
<td>P10</td>
<td>5</td>
<td>2 hrs</td>
<td>4</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
<td>x</td>
</tr>
<tr>
<td>P12</td>
<td>5</td>
<td>3 hrs</td>
<td>10</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
<td>x</td>
</tr>
<tr>
<td>Question</td>
<td>1</td>
<td>2</td>
<td>3a</td>
<td>4a</td>
<td>4b</td>
<td>4c</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>Number of Sections Completed</td>
<td>Time Taken</td>
<td>Number of Sessions</td>
<td>Other Texts Used</td>
<td>Bones/Models Used</td>
<td>Tape/Slides Used</td>
<td>ENJOY</td>
</tr>
<tr>
<td>---</td>
<td>----------------------------</td>
<td>------------</td>
<td>-------------------</td>
<td>-----------------</td>
<td>------------------</td>
<td>----------------</td>
<td>-------</td>
</tr>
<tr>
<td>S2</td>
<td>2</td>
<td></td>
<td></td>
<td>No</td>
<td>Yes</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>S3</td>
<td>5</td>
<td>3-4hrs</td>
<td>3</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
<td>x</td>
</tr>
<tr>
<td>S4</td>
<td>5</td>
<td>4½hrs</td>
<td>4</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>x</td>
</tr>
<tr>
<td>S19</td>
<td>4</td>
<td>13/4hrs</td>
<td>3</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>x</td>
</tr>
<tr>
<td>S23</td>
<td>5</td>
<td></td>
<td></td>
<td>No</td>
<td>Yes</td>
<td>No</td>
<td>x</td>
</tr>
<tr>
<td>S25</td>
<td>2</td>
<td>1.20hrs</td>
<td>3</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>x</td>
</tr>
<tr>
<td>S27</td>
<td>2</td>
<td>1½hrs</td>
<td>1</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
<td>x</td>
</tr>
<tr>
<td>S28</td>
<td>3</td>
<td>2 hrs</td>
<td>3-4</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>S29</td>
<td>5</td>
<td>3 hrs</td>
<td>5</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>x</td>
</tr>
<tr>
<td>S30</td>
<td>2</td>
<td>2-3hrs</td>
<td>2</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>x</td>
</tr>
<tr>
<td>S31</td>
<td>1</td>
<td>30mins</td>
<td>1</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>x</td>
</tr>
<tr>
<td>Question</td>
<td>1</td>
<td>2</td>
<td>3a</td>
<td>4a</td>
<td>4b</td>
<td>4c</td>
<td>5</td>
</tr>
</tbody>
</table>
sheets although from examination of the work books and from the interview it was found that more than this had actually done the work. Of those students who did fill in the evaluation sheets only 36% (4) completed all the sections in the work book.

Apart from the fact that all the University students completed the entire course on the locomotor system there were no striking differences between the groups. It is of interest that none of the pupil nurses used other text books as an adjunct to the self-instructional course whereas several members of the other two groups did (University Students 57% and Student Nurses 36%).

Several members of all three groups used the bones which were provided in the learning package while they completed the work (University Students 42%, Pupil Nurses 57% and Student Nurses 81%). Apart from two of the Student Nurses (S19 and S30) nobody used the tape/slide programmes in conjunction with the text.

Of the learners who completed all the sections in the course there were no significant differences in either the time they took or in the number of sessions they devoted to the work. In both cases the range was quite wide in all three groups as can be seen from Tables 7(A)4(i)-(iii).

All the participants who completed the evaluation sheets said that they enjoyed using this self-instructional course. The following comments which were given in answer to question (5) on the evaluation sheet illustrate the various reasons why the subjects enjoyed following this course:-

**University Students**

U1  "It was good revision of anatomy and physiology and highlighted what I had forgotten. A good clear book."

U2  "I enjoy multiple choice tests."

U3  "Relatively straightforward and easy to follow, the illustrations were helpful. The book didn't go into too much detail and the tests helped you to see how you were doing."
Pupil Nurses

P4  "It was quite easy to follow and informative."

P7  "It gave very clear and easily understood diagrams. And doing tests after each section helps practise what you have learnt."

P8  "I liked the idea of being able to test yourself after completing each section."

Student Nurses

S3  "Encouraging way of learning. Very clear."

S25 "Using this self-learning method encouraged me to study on a regular basis and to go into subjects more thoroughly."

S27 "Good to see how much you have learned by test at end."

S29 "It gave you the basic knowledge that you needed to know clearly."

During the interviews it also emerged that the most helpful aspects of this self-instructional course was the self-testing and the fact that the information was concise and a quick method of revision.

University Students

U5  "I found it, it was nice to remind me, it reminded me of things."

Q  "Because you'd obviously covered all that before?"

U5  "Yes, I went through it very quickly, I didn't have to spend long doing it."

Q  "Yes, so you did quite well on the tests?"

U5  "Yes, I did well with the tests, but I'd have still read through it just to jog my memory."

U4  "It's nice to do a test, I'm a testy sort of examiny sort of person, that way inclined, I like to know that things are going in - I'm better working for things that I'm going to be tested on rather than just for your own sort of."
P12 said that the self-instructional course on the locomotor system was what she enjoyed the most about the whole learning package. "Because it was complete in itself, I could pick that up and read it."

Q "Was it because you could carry it about."

P12 "Yes, sometimes I was doing it when I was waiting for a bus, because I had to wait half-an-hour so I thought I'll whip the A & P book out and do some!"

Later "I think it was good to sort of split it up, I thought it was well divided so that you were just doing one subject related to the orthopaedics, whereas in the text books they tend to sort of go on from paragraph to paragraph. I tended to do them in sections and finish once I'd done the tests."

P12 spent ten different sessions working on this course which was six times more than any of the other subjects in the study.

Student Nurses

Q "Do you like testing yourself?"

S20 "Yes, you know how much you know at the beginning really, it's difficult to assess how much you already know and how much you've learnt at the end of it" (without a test).

Later S20 "With self-tests you feel you've learnt something, so you feel quite good about it, it sort of encourages you to go on learning."

Q "How do you like testing yourself like that?"

S30 "It's good."

Q "What do you think is good about it?"

S30 "By testing before and after you do the work you can pick out where you were a bit shaky on certain subjects and do more work on that particular subject than you would if you'd done quite well."

As was mentioned in Section A(2) some learners, particularly the pupil nurses did find the anatomy and physiology course too complex and felt it was "more than they
needed to know." This feeling related particularly to the sections on the muscles and facial bones.

P4  "I found the ones about the muscles and things a bit more difficult, than the worst of bone ones and things."

P2  "I mean I could understand it, but we don't need to know that much in our training."

Q   "Which particular section?"

P2  "Muscles, that was the one. A lot of it was a bit above me, I had to look it up in another book - to explain it - you know."

later

"It didn't worry me, I just didn't think it was particularly aimed at pupils. There was too much detail for what we're used to (pointing at the section on facial bones). All this, I'd never heard of half of these, I panicked a bit here."

Several students also picked out the section on muscles as being too complex:--

S16 "I found the one on muscles a bit more difficult and I couldn't really say that I remembered that much about it and I get a little bit muddled."

S8  "I've never heard about some of these terms before. I don't know whether we need to know about muscles, I suppose you do to a certain extent, - but, um, I hadn't a clue what some of them were - stood for."

S28 "I mean if I were a staff nurse working on an orthopaedic ward then I'd really put myself out to learn all the bits, you know bones and all the muscles and nerves."

One of the University students also commented that some of the anatomy went into more detail than they needed on the ward. This was in spite of the fact that she considered the detail in the text to be less than she had learnt at the University the previous year.

Q   "So how do you judge what you think you need on the ward?"

U4  "I sort of do it on things that I've come in contact with, I mean you never know what you're going to come in contact with so I suppose you've got to know a little bit more."
This student agreed with P2 that the facial bones were particularly intricate to learn. It is worth noting that a small proportion of patients are admitted to the orthopaedic wards each year with facial injuries. It would then be necessary for the nurses to understand the structure of the facial bones in order to comprehend the care they should give to the patient.

A(4)b(ii) The Programmed Texts

Two programmed texts were used in the learning package:-

All the learners who took part in the project were asked to complete evaluation sheets for these programmed texts, (see Appendix 14)

Table 7(A)4(iv) Response Rate for Completion of These Evaluation Sheets Was As Follows:-

<table>
<thead>
<tr>
<th></th>
<th>Healing of Fractures</th>
<th>The Hip Joint</th>
</tr>
</thead>
<tbody>
<tr>
<td>University Students</td>
<td>100% n= 7</td>
<td>100% n= 7</td>
</tr>
<tr>
<td>Pupil Nurses</td>
<td>83% n = 12</td>
<td>75% n = 12</td>
</tr>
<tr>
<td>Student Nurses</td>
<td>40% n = 31</td>
<td>36% n = 31</td>
</tr>
</tbody>
</table>

Tables 7(A)4(v)-(vii) give a synopsis of the answers from questions (2), (3a) and (4a) of the evaluation sheets for all three groups.

There are no strongly significant differences between the three groups relating to the length of time taken to complete these programmes or to the number of sessions spent
## Programmed Texts

**"Hip Joint" by I. King Hull and Isaacs**

<table>
<thead>
<tr>
<th>University Students</th>
<th>Time Taken</th>
<th>Q3(a) Enjoy</th>
<th>Q4(a) Enjoy</th>
<th>Time Taken</th>
<th>Q3(a) Enjoy</th>
<th>Q4(a) Enjoy</th>
</tr>
</thead>
<tbody>
<tr>
<td>U1</td>
<td>1½ hrs</td>
<td>x</td>
<td></td>
<td>2 hrs</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>U2</td>
<td>1½ hrs</td>
<td>x</td>
<td></td>
<td>1 hr</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>U3</td>
<td>40 mins</td>
<td>x</td>
<td></td>
<td>1 hr 10 mins</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>U4</td>
<td>1½ hrs</td>
<td>x</td>
<td></td>
<td>30 mins</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>U5</td>
<td>25 mins</td>
<td>x</td>
<td></td>
<td>35 mins</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>U6</td>
<td>1 hr</td>
<td>x</td>
<td></td>
<td>1½ hrs</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>U7</td>
<td>40 mins</td>
<td>x</td>
<td></td>
<td>2 hrs</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>Average</td>
<td>1hr 2mins</td>
<td></td>
<td></td>
<td>1hr 16 mins</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Table 7(A)4(v) Synopsis of Answers to Questions (2), (3a) and (4a) on the Evaluation Sheets**
### Programmed Texts

<table>
<thead>
<tr>
<th>Pupil Nurses</th>
<th>&quot;Hip Joint I. King&quot;</th>
<th>&quot;Healing of Fractures&quot; Hull &amp; Isaacs</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Q2 Time Taken</td>
<td>Q3(a) Number of Sessions</td>
</tr>
<tr>
<td>P1</td>
<td>1½ hrs</td>
<td>1</td>
</tr>
<tr>
<td>P2</td>
<td>1 hr 20mins</td>
<td>1</td>
</tr>
<tr>
<td>P3</td>
<td>1 hr</td>
<td>3</td>
</tr>
<tr>
<td>P4</td>
<td>1½ hrs</td>
<td>1</td>
</tr>
<tr>
<td>P5</td>
<td>1½ hrs</td>
<td>x</td>
</tr>
<tr>
<td>P6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>P7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>P8</td>
<td>2 hrs</td>
<td>2</td>
</tr>
<tr>
<td>P9</td>
<td>2 hrs</td>
<td>2</td>
</tr>
<tr>
<td>P10</td>
<td>30 mins</td>
<td>1</td>
</tr>
<tr>
<td>P11</td>
<td></td>
<td></td>
</tr>
<tr>
<td>P12</td>
<td>1 hr</td>
<td>1</td>
</tr>
<tr>
<td>Average</td>
<td>1 hr 22mins</td>
<td></td>
</tr>
</tbody>
</table>

Table 7(A)4(vi) Synopsis of Answers to Questions (2), (3a) and (4a) on the Evaluation Sheets
<table>
<thead>
<tr>
<th>Student Nurses</th>
<th>&quot;Hip Joint&quot; I. King</th>
<th>&quot;Healing of Fractures&quot; Hull and Isaacs</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Q2 Time Taken</td>
<td>Q3(a) Number of Sessions</td>
</tr>
<tr>
<td>S1</td>
<td>1 hr</td>
<td>1</td>
</tr>
<tr>
<td>S2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>S3</td>
<td>1 1/2 hrs</td>
<td>1</td>
</tr>
<tr>
<td>S4</td>
<td>30 mins</td>
<td>1</td>
</tr>
<tr>
<td>S6</td>
<td>1 1/2 hrs</td>
<td>2</td>
</tr>
<tr>
<td>S7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>S19</td>
<td></td>
<td></td>
</tr>
<tr>
<td>S23</td>
<td>1 1/2 hrs</td>
<td>3</td>
</tr>
<tr>
<td>S26</td>
<td>30 mins</td>
<td>1</td>
</tr>
<tr>
<td>S27</td>
<td>1 hr 10 mins</td>
<td>1</td>
</tr>
<tr>
<td>S28</td>
<td>1 hr</td>
<td>1</td>
</tr>
<tr>
<td>S29</td>
<td>1 hr</td>
<td>1</td>
</tr>
<tr>
<td>S30</td>
<td>1 hr</td>
<td>1</td>
</tr>
<tr>
<td>S31</td>
<td>1 hr</td>
<td>3</td>
</tr>
<tr>
<td>Average</td>
<td>1 hr 13 mins</td>
<td></td>
</tr>
</tbody>
</table>

Table 7(A)4(vii) Synopsis of Answers to Questions (2), (3a) and (4a) on the Evaluation Sheets
working on them. However on average pupil nurses did take slightly longer than the other two groups to complete the work and for the programme on the "Hip Joint" the University students took slightly less time than the other two groups.

When answering question 4(a) by far the majority of subjects said that they did enjoy using the programmed texts. Their reasons for making this judgement given in answer to question 4(b) are as follows:--

Student Nurses
"Very clear." "Very encouraging to work through."
"Easy to digest." "Well laid out."
"Simply explained." "Reinforcing in its teaching."
"Answers readily available." It gave the necessary information clearly and didn't give useless information to confuse you."
"I found it easy to read and digest and made me interested, I felt I learnt a lot."
"Small enough to handle easily."

Pupil Nurses
"Interesting and easy to follow and learn from."
"It explains simply." "Well planned and easy to follow."
"It made me think and work things out for myself."
"Easy to understand and informative."
"Simple to follow (especially at night!)."

University Students
"Useful background revision, found questions helped me to remember points."
"It was quite simple and easy to follow with clear illustrations."
"Well presented. Easy to understand."

When I carried out the interviews after the learners had completed the package they enlarged on some of these points:--
Student Nurses

S2  "I thought it (Programmed Text on the Healing of Fractures) was really good, because you know, it kept going backwards and forwards, and you just couldn't forget things like - I mean, before, I could never remember "Healing of Fractures." That's why I could never answer that question (on the Pre-Test), I mean, we'd done it in school, but I mean it really stuck, just you know, people saying - this going backwards and forwards."

later

"You see I've never done them before and I found them quite a good way of working, you know, rather than reading through this thing (picks up an article) - like - um, in this "General Information on Fractures" that tells you about fracture healing, but it didn't stick as much as that programmed text."

S30 "I liked those (programmed texts) very much because they're sort of note form and it's easy to read through and sort of revise from and pick bits out, whereas with text books it's all long winded, but this was sort of notes."

S26 "I like it (using programmed texts) very much."

Q  "What did you like about it?"

S26 "Well you had the answer there and then, you had the answer available, because usually if you answer questions you have to wait a week or something before you get the answers back and it's having the answers just there so it sticks in your head a bit more and you think 'Oh yes, how daft, I should have put that in the first place.'"

The post-test showed that this student's knowledge improved considerably after doing the programmed test on the "Healing of Fractures".

Pupil Nurses

Some of the pupil nurses were particularly enthusiastic about learning from the programmed texts:-

P9  "I liked them a lot, I really did, I think they're fabulous."
Q  "What do you like about them?"

P9  "They were very sort of simple, to me anyhow they are. I don't mean it's easy but what I mean, the way it's written is nice and simple and the answer to the question, yes I liked the way it's done, you go through it very slowly, bit by bit, and you're gradually learning, and then you can go back, it's all done sort of step by step."

P11  "I loved the one on fractures, I thought that was lovely, I really enjoyed doing that."

Q  "Why do you think you liked it?"

P11  "I think I liked it because it was just so easy to learn and you'd sit there and you'd know the answers, not that I cheated!"

Q  "No, it doesn't matter!"

P11  "You know it was easy to find the right or wrong answer, I just enjoyed reading something and flipping through to see whether it was right or whether it was wrong, I just enjoyed it, it was lovely."

This pupil nurse only did one of the programmed texts, "The Healing of Fractures."

P2  "Yes I did the programmed texts, the hip joint and the healing of fractures, which I enjoyed, those two."

Q  "Did you find these a better level for you?" (Had commented that a lot of the self-instructional course on locomotor system was "above my head")

P2  "Much better, because it was a very progressive thing. It went from stage to stage and you could follow it ever so easily, especially the healing of fracture, I really enjoyed that."

P12  "I found them good for night duty, because you can sit there and I thought they were rather easy, but when you are writing at night you don't want anything too complicated, a lot of it was just the facts and straightforward which you can make notes from."
University Students

U3  "I found them (programmed texts) quite useful. Again I found it quite an easy way to learn."

Q  "Yes, was it too easy for you, do you think?"

U3  "Er, yes, I think I found them a little bit repetitive at times, but whether that's a bad thing I don't know, because it certainly drummed the point home."

U6  "I thought the healing of fractures one was very good because I didn't know hardly anything about it, but the hip one was a bit slow."

The evaluation sheets also picked up the points which these two University students made about the programmed texts being rather slow and repetitive. In fact the most interesting result from the evaluation sheets is that a significantly high proportion of the University students (43%) said that they did not enjoy using these programmes. Of the other two groups only 18% of the student nurses and 11% of the pupil nurses answered likewise.

The following reasons were given on the evaluation sheets (question 4(b)) for not enjoying these programmed texts:

University Students

The Hip Joint

U1  "The layout of the book was annoying and the questions were repetitious and too simple - having to answer a question on what you have just read."

U4  "Repetition was a bit irritating. The work was relevant but the topic could have been covered in half the time."

U5  "Too repetitive."

Healing of Fractures

U1  "Information was interesting but Information/Answer/Question layout was tedious and childish."

U4  "I wouldn't say 'enjoy' exactly. However I found some of it useful."
"Too repetitive, although it made sure you knew
the answers at the end. Explanation too basic."

One of the student nurses also thought that the
programmed texts were too simple:

"Over-simplified, but I did learn from it."

Apart from being too repetitive and over-simplified,
another reason given by a few of the students and pupils
for not enjoying the programmed texts was that they were too
difficult:

"Found it hard and a lot to take in."

"I found it (Hip Joint) slightly more difficult
to follow." (than the Healing of Fractures)

Once again during their interviews, several of the
learners enlarged on the reasons why they did not enjoy using
the programmed texts.

University Students

Q "The programmed texts, how did you like those,
how did you find those?"

U5 "I found them very repetitive, but it made it
sink in I suppose, but just got a bit aggravating
after a while."

Q "Do you think it could have been less repetitive
and still given you the message?"

U5 "Yes, I think it seemed to repeat itself about
three times and two would have been enough."

Q "Did you find the programme equally aggravating?"

U5 "Yes, I found the hip more aggravating than the
fractures."

This student felt the programmes were appropriate for
their course as a basic line but thought that they were
expected to know more detail.

U4 "That little booklet on fractures - it was alright
but I think it could have been done in a lot
shorter sort of...."

Q "The um, I know what you mean."
U4 "Yes, I don't think it was necessary to do all the questions, I think you could almost have done it on a side."

Q "Yes, in less stages."

U4 "Just a few sort of annotated diagram thingies."

However this student felt that "what you actually came out with in the end was relevant."

Student Nurses

S16 "They were very useful for information but they did make me laugh, I was in stitches, well it's the way, I felt as if I was about two years old, it was sort of irritating."

Q "Did it insult you at that level?"

S16 "Well it could have done to start with, but I think I just saw the funny side of it and just had to laugh, I thought I was in a class of two year olds."

later

S16 "I think in some ways, I preferred that despite the fact it seemed a bit childish, to having a lot of questions at the end of the section, I mean it really did drum it in."

S4 "It was O.K. but it was over simplified."

"It could have been half the book really." (The Hip Joint).

later

"I found the fracture one more helpful."

Pupil Nurses

P8 "Sometimes the way the questions were put were a bit sort of, I don't know, too easy really I think...."

Q "So what effect did that have on you?"

P8 "Well I was sort of thinking, Oh God, you know, you know it's a bit childish, yes childish " (Hip Joint).

This pupil did not find this with any other information in the learning package.
One of the pupil nurses did not attempt either of the programmed texts because she was put off by the text at the beginning.

S24 "I think it was asking too much, with the tests and everything else. I did a test right at the start, and I knew I didn't know half of the answers, so...."

later
"I like to start with a level that I feel that I'm sort of ready for and it was coming at a time when I was trying to do care plans and things like that. So that threw me a bit, but I think it was the little test, it came right at the beginning."

In summary, the majority of subjects in all three groups did enjoy using the programmed texts. They found the books compact, clear, concise and easy to follow. They liked the frequent testing and found this method of learning effective, interesting and motivating. Many subjects mentioned that they were a particularly helpful method of revision. On average the University students completed the programmes slightly quicker than the other two groups while the pupil nurses were slightly slower.

However a significantly high proportion (43%) of the University students did not enjoy using these programmed texts. Although they considered that the subject matter was relevant they found the presentation over-simplified, tedious and repetitious which in some cases proved to be aggravating. One or two subjects in both the other groups voiced similar opinions.

Individual student and pupil nurses did say that the work in the programmed texts was hard and a lot to take in. One student was deterred from studying the books at all because the pre-test was off-putting.

Of the two programmed texts the one on the healing of fractures was the most popular in all three groups.
The Tape Slide Programmes

As already mentioned in Chapter 5.3, the tape/slide programmes had taken a lot of time and money to produce. It was therefore particularly important that their use and effect should be carefully monitored and evaluated. Learners were asked to complete a separate evaluation sheet for each of the seven programmes which they used (see Appendix 14.4). These evaluation sheets included questions on the learners' general impressions about the programme as well as a separate section on the narration, the pictures on the slides and the student activities which were incorporated into the programme. There was an open section at the end for general comments.

The response rate for completing these evaluation sheets was better than it was for the Self-Instructional Course on the Locomotor System and the Programmed Texts. Table 7(A)4(viii) gives a breakdown of the response rate in the various groups of learners.

<table>
<thead>
<tr>
<th>Programme No</th>
<th>Students</th>
<th>Pupils</th>
<th>University Students</th>
<th>Total Numbers</th>
<th>Total Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>No 1</td>
<td>24=80%</td>
<td>8=66%</td>
<td>7=100%</td>
<td>39</td>
<td>78%</td>
</tr>
<tr>
<td>No 2(a)</td>
<td>23=76%</td>
<td>10=83%</td>
<td>7=100%</td>
<td>40</td>
<td>80%</td>
</tr>
<tr>
<td>No 2(b)</td>
<td>20=66%</td>
<td>10=83%</td>
<td>7=100%</td>
<td>37</td>
<td>74%</td>
</tr>
<tr>
<td>No 3(a)</td>
<td>21=70%</td>
<td>10=83%</td>
<td>7=100%</td>
<td>38</td>
<td>76%</td>
</tr>
<tr>
<td>No 3(b)</td>
<td>20=66%</td>
<td>9=75%</td>
<td>7=100%</td>
<td>36</td>
<td>72%</td>
</tr>
<tr>
<td>No 3(c)</td>
<td>15=50%</td>
<td>8=66%</td>
<td>7=100%</td>
<td>30</td>
<td>60%</td>
</tr>
<tr>
<td>No 4</td>
<td>14=46%</td>
<td>9=75%</td>
<td>7=100%</td>
<td>30</td>
<td>60%</td>
</tr>
</tbody>
</table>

Table 7(A)4(viii) Response Rate for the Completion of the Evaluation Sheets for the Tape/Slide Programmes
The results from the completed evaluation sheets have been analysed and presented for each programme as illustrated in Table 7(A)4(ix). This format makes it possible to compare the responses from each of the three groups for each question. Programme 2(a) was chosen as an example for the main text as it was the programme which was commented on most frequently (by 80% of the total sample). The analysis of the evaluation sheets for all the other programmes are contained in Appendix 24.

As well as the data gained from these evaluation sheets a lot more was generated during my individual interviews with the learners. In addition to enlarging on the questions which were asked on the evaluation sheets I also enquired about the learners' reactions to using the objectives and the follow-up exercises for each programme which were included in the work books.

In presenting the data I propose to examine it under the following headings using information gained from both the evaluation sheets and the interviews:

1) The Learning Objectives
2) Students' General Impressions of the Tape/Slide Programmes
3) The Narration
4) The Illustrations
5) The Activities for the Students
6) The Follow-Up Exercises
5) The Tape/Slide Programme I have just seen was:

a) **Interesting**

- **Student Nurses n = 23**
  - 26% Interesting
  - 52% Boring
  - 22% Neutral

- **Pupil Nurses n = 10**
  - 30% Interesting
  - 50% Boring
  - 20% Neutral

- **University Students n = 7**
  - 43% Interesting
  - 28% Boring
  - 28% Neutral

b) **Relevant to Ward Work**

- **Student Nurses**
  - 69% Relevant
  - 17% Neutral
  - 13% Not Relevant

- **Pupil Nurses**
  - 60% Relevant
  - 30% Neutral
  - 10% Not Relevant

- **University Students**
  - 100% Relevant

---

Table 7(A)4(ix) Analysis of the Evaluation Sheets on the Tape/Slide Programmes
The Tape Slide Programme I have just seen was:-

<table>
<thead>
<tr>
<th>d) Easy to Organise</th>
<th>Difficult to Organise</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student Nurses n=23</td>
<td></td>
</tr>
</tbody>
</table>
|                     | 35 17 22 8 4 4 4     | %
| Pupil Nurses n=10   |
|                     | 40 20 20 20 20%       | %
| University Students |
|                     | 43 43 14 %            | %
|                     | 1 2 3 4 5 6 7         | %

<table>
<thead>
<tr>
<th>e) Muddled</th>
<th>Clearly Presented</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student Nurses</td>
<td></td>
</tr>
</tbody>
</table>
| 8 8 39 39%  | %
| Pupil Nurses |
| 10 30 60%   | %
| University Students |
| 28 72%      | %
| 1 2 3 4 5 6 7 | %

<table>
<thead>
<tr>
<th>f) Taught Me A Lot</th>
<th>Taught Me Nothing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student Nurses</td>
<td></td>
</tr>
</tbody>
</table>
| 17 52 17 4 8 %    | %
| Pupil Nurses       |
| 20 60 20 %         | %
| University Students |
| 14 57 29 %         | %
| 1 2 3 4 5 6 7     | %

6) The Voice on the Programme was:

**Student Nurses n = 23**

<table>
<thead>
<tr>
<th>Clear</th>
<th>74</th>
<th>17</th>
<th>4</th>
<th>100</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Pupil Nurses n = 10</th>
</tr>
</thead>
<tbody>
<tr>
<td>70</td>
</tr>
<tr>
<td>20</td>
</tr>
<tr>
<td>10</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>University Students n = 7</th>
</tr>
</thead>
<tbody>
<tr>
<td>100</td>
</tr>
<tr>
<td>1</td>
</tr>
</tbody>
</table>

**Pupil Nurses**

<table>
<thead>
<tr>
<th>Monotonous</th>
<th>8</th>
<th>22</th>
<th>30</th>
<th>22</th>
<th>17</th>
<th>100</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
</tbody>
</table>

**University Students**

<table>
<thead>
<tr>
<th>Too Fast</th>
<th>4</th>
<th>4</th>
<th>78</th>
<th>13</th>
<th>100</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

**Student Nurses**

<table>
<thead>
<tr>
<th>Too Slow</th>
<th>80</th>
<th>10</th>
<th>10</th>
<th>100</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

**Pupil Nurses**

<table>
<thead>
<tr>
<th>14</th>
<th>14</th>
<th>14</th>
<th>29</th>
<th>14</th>
<th>14</th>
<th>100</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
</tbody>
</table>

**University Students**

<table>
<thead>
<tr>
<th>86</th>
<th>14</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Student Nurses n = 23</td>
</tr>
<tr>
<td>------------------------</td>
<td>------------------------</td>
</tr>
<tr>
<td>a) Interesting</td>
<td>22 26 35 13 4</td>
</tr>
<tr>
<td>Pupil Nurses n = 10</td>
<td>40 40 20</td>
</tr>
<tr>
<td>University Students n = 6</td>
<td>33.3 33.3 33.3 33.3 33.3</td>
</tr>
</tbody>
</table>

| b) Clearly in Focus    | Student Nurses         | Blurred |
|                        | 57 22 13 8             |        |
| Pupil Nurses           | 70 20 10               |        |
| University Students    | 83 17                  |        |

| c) Changed Too Frequently | Student Nurses        | Not Changed Often Enough |
|                          | 4 13 56 17 8          |                         |
| Pupil Nurses             | 10 40 40 10           |                         |
| University Students      | 16 16 50 16           |                         |

| d) Very Explanatory     | Student Nurses        | Not Explanatory At All  |
|                        | 17 48 21 13           |                         |
| Pupil Nurses           | 30 60 10              |                         |
| University Students    | 33.3 33.3 16 16       |                         |
8) The Activities in these Programmes:

**PART 2 (a) Continued**

<table>
<thead>
<tr>
<th>Student Nurses n = 23</th>
<th>Pupil Nurses n = 10</th>
<th>University Students n = 6</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>a)</strong> Added to The Value Of The Programme</td>
<td><em>(Note: 43, 39, 8, 8)</em></td>
<td><em>(Note: 20, 60, 10, 10)</em></td>
</tr>
<tr>
<td><strong>b)</strong> Were Childish</td>
<td><em>(Note: 4, 13, 17, 39, 26)</em></td>
<td><em>(Note: 10, 20, 40, 30)</em></td>
</tr>
<tr>
<td><strong>c)</strong> Gave One Time to Assimilate Facts &amp; Ideas</td>
<td><em>(Note: 30, 35, 21, 13)</em></td>
<td><em>(Note: 1, 2, 3, 4, 5, 6, 7)</em></td>
</tr>
</tbody>
</table>

---

- **Student Nurses**: 83.3% of 43, 39, 8, 8.
- **Pupil Nurses**: 20% of 20, 60, 10, 10.
- **University Students**: 33.3% of 33.3, 17, 33.3, 16.

---

- **Student Nurses**: 10% of 4, 13, 17, 39, 26.
- **Pupil Nurses**: 20% of 10, 20, 40, 30.
- **University Students**: 50% of 33.3, 33.3, 33.3, 33.3.

---

- **Student Nurses**: 40% of 30, 35, 21, 13.
- **Pupil Nurses**: 20% of 10, 20, 40, 10.
- **University Students**: 16.6% of 50, 16.6, 33.3.
The Activities in These Programmes

### Part 2(a) Continued

<table>
<thead>
<tr>
<th>Activity</th>
<th>Student Nurses n = 23</th>
<th>Pupil Nurses n = 10</th>
<th>University Students n = 6</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>d) Were Difficult to Manipulate When Using Tapes &amp; Slides</strong></td>
<td>[13 21 13 9 17 26]%</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Pupil Nurses</strong></td>
<td>10 10 10 30 20 20%</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>University Students</strong></td>
<td>16 16 16</td>
<td></td>
<td>50%</td>
</tr>
</tbody>
</table>

1 2 3 4 5 6 7

<table>
<thead>
<tr>
<th>Activity</th>
<th>Student Nurses</th>
<th>Pupil Nurses</th>
<th>University Students</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>e) Were Enjoyable</strong></td>
<td>[9 30 34 17 9]%</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Pupil Nurses</strong></td>
<td>20 40 30 10%</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>University Students</strong></td>
<td>33.3 16 33.3 16%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1 2 3 4 5 6 7

<table>
<thead>
<tr>
<th>Activity</th>
<th>Were Not Too Difficult to Organise When Using Tapes &amp; Slides</th>
<th>Were Aggravating</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Student Nurses</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Pupil Nurses</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>University Students</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
TAPE SLIDE PROGRAMME  PART TWO A

Answers given to the final question on the evaluation sheet:-

9) Do you have any other general comments about the programme?

Student Nurses

S2 Very interesting and explanatory programme - wish I'd listened to it sooner! (2nd week). Felt that on slide 23 (diagram of hip replacement) the titling of various parts was a bit too small (might just have been my eyes on the other hand).

S3 Interesting to watch. The physios made standing the patient from a lying position look easy. I found that there was a lot to take in very quickly.

S4 Very useful, but a bit slow.

S18 Nursing care, what to watch for, why abduction is necessary and how to lift were all very useful.

S20 Hard work, a lot of thought needed.

S21 Well presented slides and factual information.

S22 Very relevant to ward work.

Pupil Nurses

P6 The voice on the tape kept fading and then it would suddenly get louder. It wasn't as clear as the others. The tape was interesting and it helped having the bones to illustrate. It was also relevant to ward work.

P9 Very helpful and clear.

P12 I found the diagram on slide 23 labels too small to read. Otherwise a well presented tape and slides. (See also Student 2 re slide 23)

University Students

U1 After doing the hip replacement it seemed a waste to do it again in slides - otherwise excellent.

U2 Slide 23 unclear, especially writing. Slides 41 and 42 needed slide between if possible or some practically better explanation of lifting procedure. Voice became considerably quieter on a couple of spots on the tape.
A(4)c(i) The Learning Objectives

I had written learning objectives for each of the tape slide programmes (see Study Guide/Work Book in the Appendix). When continuous assessment is introduced to the ward areas it is planned that these objectives should be used as part of this process. However during this project they were mainly for the use of the individual student themselves as they worked through the programmes.

As very few of the subjects had ever used learning objectives before I was interested to know what they felt about them and how they had used them on this occasion.

Members of all three groups felt that the objectives were useful/helpful although they used them in a variety of ways.

Q "Do you think the objectives were useful?"

U3 "Yes, they are, because they give you some idea of - if you like - what you are supposed to know when you have finished. You've got something concrete to aim for, and that you should be able to do this and you should be able to recognise that, or explain to a patient about his traction or something like that."
S12 "It's handy to know what you should learn, because otherwise you don't know what you're supposed to be learning to do."

S6 "Oh yes, that (objectives) was good. Yes, I didn't always do it at the end, but I did sort of look through it and see what you should be able to do."

Q "Would you say they were useful to you?"

S6 "Well you know if you had gone through the programme and you didn't know, and you still weren't sure of it, and you went back and you could always go over it again."

P6 "It (having objectives) was a good idea, because it gave you something to work towards. Because otherwise, I think, you'd fill the book in and then just, maybe, forget the little bits that the objectives wanted to achieve, really."

Q "How did you use the objectives?"

U5 "Well I, after I finished doing the tape/slide programme, and I read back through them (the objectives), I decided whether I could or couldn't. If I couldn't do it I'd go back through the relevant slides."

U6 "I read them beforehand and after I'd finished the tape/slide I, you know, read back and made sure I could do them."

S20 "As I went through, I had the book in front of me, and as I went through them I saw the objectives and you heard them actually being answered and so I made a rough note at the time."

S16 "I read through them before I did each tape/slide programme and I thought to myself, well what do I know about it to start with, which was usually not a lot, and then from there I went on, I didn't on the whole tend to go back if I could do it afterwards though, I must admit, if I felt I gained as I went along I was quite content at that."
Q: "Do you think it would be useful if we gave you objectives for more topics?"

S26: "I think so because when you're studying on your own you can go off on such tangents in everything, go into one particular area that you, that isn't necessary, that you become too technical and you don't learn what you should be learning overall, you can do that very easily, I do that."

P6: "Sometimes, when I'd done the tape/slides, I used to turn back, after I'd finished it and put it away, and then see how many of the objectives I could do. And if I couldn't do them, then I'd go back. And some I wrote in, in pencil, in the book, to see, so I'd remember, because I thought I might forget."

P4: "I used to look through them and sort of work my way down if I could on most of them."

Q: "Did you do it at the end?"

P4: "No, I used to do it at the beginning, as I was doing it, I used to read what was written and sometimes I wrote it (the answer) down on a separate piece of paper."

Overall the learning objectives for the tape/slide programmes were felt by members of all three groups to be useful. They helped them to ascertain their knowledge on completion of the programme and to indicate whether or not they should play it through again.

The learners used these objectives in a variety of ways. Some would only read them through before they started the programme while others would wait until they had completed the work. A few referred to the objectives as they were working through the programme making relevant notes as they went along. Some would follow all three strategies. Many of the learners agreed that it would be helpful if they were given learning objectives for more topics during their course.
A(4)c(ii) Students' General Impressions of the Tape/Slide Programmes

With a very few exceptions the data from the evaluation sheets show that all the learners found the tape/slide programmes interesting and relevant to their ward work.

During the interviews a variety of reasons were given as to why the tape/slide programmes were interesting and enjoyable. Several learners highlighted the fact that they preferred this mode of learning to reading a text book and found that the visual stimuli from the slides led to a greater retention of information. Others liked the condensed approach to obtaining information and some mentioned that this method improved their concentration. One student felt that it was reassuring to know that the whole group received the same information. The following comments illustrate these points:-

Student Nurses

S26 "It's interesting because usually all you do is read, so it's interesting to get something where you don't have to read so much but you're still learning an awful lot."

Q "Did you feel you did learn an awful lot?"

S26 "Yes, and the bits I had to really think about on the tapes I just wound back and re-played it."

Q "Yes, did you do that quite often, wind it back and re-play it?"

S26 "Yes, perhaps a few sentences or something, keep going back through like that."

S10 "It's much easier to listen to something than to sit and read it all the way through and also if they're just giving you the main facts that you need to know, whereas if you look at a text book you could have about ten pages and perhaps you would only need two pages out of it really but you have to pick through it, whereas in the way of the tapes you've got the facts given to you and that's all you need, well not all that you need to know, but at least you've got all the main things in that and then O.K. you can still look up these things afterwards as well if you want more detail on it."
Q "So you like this condensed approach?"

S10 "Yes, I think in that way, because you feel, well I've listened to that and everybody else has listened to the same thing, therefore we are all getting the same information, whereas if you look all through different books someone might get an awful lot more than you, you know, because you might not be able to get that book or whatever, so I think that's a good way."

S14 "Very good, I really enjoyed it, for me, I don't know about anybody else, but I found that it really helped to actually see something and have somebody talking at the same time, and then also to be able to have a work book like this and to be able to see all the diagrams, it was very good, very sort of orderly fashion."

S16 "Yes, it's quite a useful one (method of learning). I find things tend to stick in more than just reading and you're sort of looking at it as well as just listening to it, rather than, I mean it's so easy just to look at a page and you think you've read it and you can't remember what it said when you got to the bottom. I think It's (tape/slides) a good way of learning."

University Students

U3 "It (tape/slides) is different from text book learning because you have got something to see and visualize."

Q "Can you say what effect it has on you, that's different from the type of learning you've been used to before?"

U3 "I find it's much easier, and I find it's more interesting as well, because I find it easier to learn if I can see what I'm supposed to be doing, and actually visualize - um - like the lifting techniques, it's all very well to read about them and have schedules, but it's not till you actually do it, or see it in front of you."

later

".....because it's a totally different way of doing it. It's really quite refreshing to sit down with a slide projector and actually see
what you're learning. And you find things stick more easily in your mind, because you go back and you can visualize in your mind the picture, and you think Oh yes ."

U4  "I don't take in very much from reading things like that - I can't remember, I only read it a couple of days ago but I can't remember much, I'm much better with the slides - I've never seen slide things like that before, but that was really good because that really sticks in my mind a lot more than reading an article."

U6  "I thought the tape/slides were really good and having the slides and being able to see it and imagine it on the ward."

Pupil Nurses

P6  "I've enjoyed it - it's been helpful..... especially the slides, as they're informative, and I think pictures - well I think myself anyway, I need pictures to relate to things. And I've enjoyed doing them from that. I found it interesting."

later

P6  "I think it helps having a picture in your mind that you can keep, and also having a voice relating to the slides. Obviously they wouldn't really be much, without each other, the slides and the tapes, but just having the pictures there, and also because it was all relevant to ward work, you could compare it with work you were doing."

P5  "I like it (tape/slides) I think it's easier, quite honestly."

Q   "In what way is it easier?"

P5  "Easier to learn, because when you're actually looking in a book or something, it seems far more complicated than it actually is, but when someone's sort of broken it down and explained it it's easier you know, that's what I think anyway."

P5 went through all the tapes/slides quickly at the beginning of her allocation to the ward and then went back and worked through them more slowly. This would appear to be the most ideal method for this type of project. An initial overview forms a good basis both for the ward work and for planning further study.
"In what way did you find them helpful?"

Well because, looking at the slides and listening to the voices and everything, to me it was just so sort of very clear and to actually be able to see what was going on. I like to just learn that way, other people might not....."

"So do you think you actually learnt better like that?"

"Definitely, I would say so yes, personally yes, definitely, things that you could see, and that, make a difference I think, than just reading a book or something, and not having any sort of guidance, but here you sort of had to do it and because I find it very clear cut the sort of slides and things."

One of the pupil nurses on night duty particularly appreciated being able to see how the patients were cared for during the day time.

"Those tape/slides were good, because you could see things, how they were done during the day, because at night, nothing like that happens."

"On nights you just don't see what goes on during the day. It's interesting, I think seeing pictures and as you see the pictures, you're learning it as well, you keep the picture in your mind."

The answers given to Questions 5(c), 5(e) and 5(f) on the evaluation sheets show that the majority of learners felt that the tape/slide programmes were easy to understand, clearly presented and taught them a lot. Programme 3(b) "Patients on Traction. Detail Skeletal Traction. Conclusion and Theory", appears to have been the most difficult programme to understand and not quite so clearly presented as the others. However all the learners felt that it (3b) had taught them a lot, which was not always the case with some of the other programmes which they considered were clearly presented and easy to learn.
The answers given to Questions 5(d) and 8(d) on the evaluation sheets show that for every programme there were a few learners who found the tapes and slides difficult to organise and manipulate. Although this was only a small proportion of the total sample it is significant and was voiced several times during the interviews by the student nurses and the University students.

Student Nurses

S24 "I found the sort of actual manipulation of the slides, when you've got sort of forty odd slides to slip in and out of the little folders, that irritated me after a while. Fine you could stack up quite a lot in the little viewer but when you finished the tape/slide and you've got to put it all away again. I mean it's a minor irritation I know, but it's the sort of thing, just little things like that that tend to slow you down and you know, you've got, you can't just close up a book, or close up a case or whatever, you've got to fill all the things in."

S16 "I found there were rather a lot of slides sometimes though and I sort of got distracted in a way because there was too many to go in (into the hand viewer), which meant I had to keep stopping and re-winding and going back again."

This student had used this method of learning before on a distance learning course for Dental Nurses. However there had never been more than 20 slides in any one programme which is less than any of the programmes in my project. The student did not find the tape too long and commented:

S16 "Obviously to make it shorter you've got to cut some of the information out, I don't think you can do that, I don't find the tapes particularly long not really."

Some students had problems manipulating the equipment because they only had one electric socket in their room.

S22 ".....you had so many things there that you had to have in front of you, that was the only difficult thing about it."
Q "Did you find the actual manipulation a bit difficult then?"

S22 "I did personally because I was having to go through and unplug everything, because I only had one plug, so I was listening to a few bits of the thing (tape) and then putting the slides through."

University Students

U7 agreed with S24 that the slides were "very fiddley" to put away and felt "they would have been better kept in boxes".

I agree that this method would have been slightly quicker but it is more likely that they would be put away in the wrong order.

One of the pupil nurses preferred written work to using the tape/slide programmes as she did not have enough patience to organise the equipment:

P4 "I'm not too keen on the tape/slide programmes, I prefer written work. I don't seem to have the patience to sit and do tape/slide programmes, I mean I did them but I didn't really enjoy them."

later

"I think it might have been that because by the time I'd got everything out and then done it all I was getting sort of, well I'd rather just sit down and do the written stuff, I can put more into that I find."
A(4)c(iii) The Narration (Voice on the Tape)

As I explained in Chapter 5.2(d) I had considerable difficulty recording the scripts for the tape/slide programmes. Apart from Programme Four which I read myself the scripts were read by two students from the local school of acting. Both students had very clear voices and excellent diction, however one of them was rather nervous and both of them had difficulty pronouncing the technical and medical words in the scripts. This meant that the programmes had to be recorded several times before they were of an acceptable standard and it was hard to judge if the speed was suitable. I included three questions (6(a), (b), (c)) concerning the voices on the tapes in the evaluation sheets for the programmes. These related to clarity, speed and intonation.

The analyses of the completed evaluation sheets showed almost unanimous agreement that the voices on all the programmes were clear. Two of the students commented that the voice on Programme III(c) was muffled but one of them wrote "Probably due to my recorder" (S13) as a possible reason.

Comments relating to the speed and tone of the voices were variable in all three groups. The majority of learners ticked box (4) in answer to question 6(c) indicating that they felt that the speed at which the script was read was appropriate. However for some programmes the range of answers was quite wide. Programme III(b) is a good example as illustrated in Figure 7(A)4(x).

The range of answers was even wider in relation to the tone of the voice. A good example of this wide range is the analysis of the answers to question 6(b) for programme III(c) as illustrated in Table 7(A)4(xi).
Table 7(A)4(x) Results from Question 6(c) From
The Evaluation Sheets for Programme Three (b),
"Patients on Traction. Detail Skin Traction. Conclusion of Theory"

The voice on the programme was:

<table>
<thead>
<tr>
<th></th>
<th>Student Nurses n = 20</th>
</tr>
</thead>
<tbody>
<tr>
<td>Too Fast</td>
<td>5 5 5 70 10 5</td>
</tr>
<tr>
<td></td>
<td>% Too Slow</td>
</tr>
<tr>
<td>Pupil Nurses n = 9</td>
<td></td>
</tr>
<tr>
<td>11 89</td>
<td></td>
</tr>
<tr>
<td></td>
<td>%</td>
</tr>
<tr>
<td>University Students n = 7</td>
<td></td>
</tr>
<tr>
<td>86 14</td>
<td></td>
</tr>
<tr>
<td></td>
<td>%</td>
</tr>
</tbody>
</table>

Table 7(A)4(xi) Results from Question 6(b) From The Evaluation Sheets For Programme Three (c),
"Lifting, Moving and Positioning Patients With Traction Applied to the Legs"

The voice on the programme was:

<table>
<thead>
<tr>
<th></th>
<th>Student Nurses n = 15</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monotonous</td>
<td>20 34 20 13 13</td>
</tr>
<tr>
<td></td>
<td>% Lively</td>
</tr>
<tr>
<td>Pupil Nurses n = 8</td>
<td></td>
</tr>
<tr>
<td>12 12' 50 26</td>
<td></td>
</tr>
<tr>
<td></td>
<td>%</td>
</tr>
<tr>
<td>University Students n = 7</td>
<td></td>
</tr>
<tr>
<td>28 16 28 28 28</td>
<td></td>
</tr>
<tr>
<td></td>
<td>%</td>
</tr>
</tbody>
</table>
Although there was a slight trend to indicate that overall some of the University students found the voices a bit slow and rather monotonous and that some pupils found them slightly fast and more lively, this was not marked and is not significant with such a small sample.

A few of the learners added general comments relating to the voice or the speed of the tapes at the end of the evaluation sheets in answer to Question 9.

Programme One

S4  "I felt the programme was too slow, it could have been done in half the time."

U1  "A good introduction but some of the spaces between the slides were too long and you thought the cassette player had stopped."

Programme Two (a)

S4  "Very useful, but a bit slow."

Programme Two (b)

S4  "Too slow and a bit boring as I have picked all this up on the ward. (did not look at the programme until the last week of her allocation)

During her interview (S4) said again that she found some of the programmes rather slow.

S4  "I found some of the programmes that I did last week, I found them boring, because I knew what I was doing on the ward anyway."

later

"I'd already learned on the ward before looking at the programmes."

In contrast to this S17 said on the evaluation sheet that Programme Two (b) was too fast.

S17  "The first part of the programme was too fast and took a lot of rewinding to give full understanding."

Programme Four

U1  "The voice was a little fast when giving technical details."

(N.B. This was my voice)
A few other negative comments relating to the voices on the tapes were made during the interviews:

**Student Nurses**

S2 "Sometimes they got a bit monotonous, I think. You know, you can only do one at a time I've discovered. I don't remember which one it was, I felt like throwing it across the room."

later

S2 "But I think that might have been just because it was late at night. I just felt like sort of throwing the whole thing- ".

**Pupil Nurses**

P2 "I found her voice a bit monotonous, it made it - I just became a bit bored."

later

P2 "It was the tone, it was on one level all the time."

P6 "I found some of the voices a bit monotonous."

later

P6 "Some of them fade - the tapes - they sort of fade, and then get louder. You sort of turn the record-player up and then they sort of get louder again."

Several learners had mentioned informally that one of the tapes was fading in places. It was found to be faulty and had to be re-made.

Later on in the interview P6 made an interesting observation on the voices on the tapes:

P6 "I don't think you really listen that much, in depth, to the voices, because I mean, you're either filling in bits on here (points to her work book) or you're looking at the slides - it's just a background. You're obviously listening, but you're not too worried about what the voice sounds like, really."

Overall the data indicates that almost the total sample of learners found the voices on the tape/slide programmes clear.
Although the majority found the speed of the voices acceptable a few of the students found all the programmes apart from PART FOUR a little slow. This applied particularly to the University students. Several learners mentioned that there were instances when a lot of technical information was being given that the voice was too fast, meaning that they had to rewind the tape several times in order to assimilate the information.

There was a considerable difference of opinion both between and within the three groups concerning the tone of the voices on the programmes. Although many marked the evaluation sheets to indicate that they found the voices lively, the few who made written or verbal comments on this aspect of the voices were most likely to say that they found them rather monotonous and boring.

A great deal of care and time had been taken to produce illustrations of a high calibre on the slides. Wherever possible real life situations had been used for all instances where patients were illustrated and the photographs were all taken by a professional. All the graphics and diagrams were carefully planned and produced with a lot of thought being given to layout and the use of colour. They were all photographed in a University Audio-Visual Aid Department. A few diagrams were taken from text books if it was felt that they were better than we could produce locally.

I included four questions in the tape/slide programme evaluation sheets relating to the pictures on the slides. These explored whether the learners found them interesting, explanatory, clearly in focus and whether they were changed at an appropriate frequency.
By far the majority of the learners in all three groups found the pictures on the slides interesting. One or two subjects did however comment that they were a bit bored on the few occasions that the same picture was used in two programmes. This was only done very occasionally and the intention was to emphasise a point or to look at a problem from a different viewpoint. Programme Four on "Patients with Back Problems" was the programme in which this repetition occurred the most as it was the final programme in the series.

The following comments relating to this repetition of pictures were made in answer to Question 9 on the evaluation sheet for programme four.

U1 "Some pictures had been seen before."

S4 "Interesting and useful but too many of the same slides shown."

During her interview S4 enlarged on this point:-

S4 "I think, well, a lot of them had the same photos in, as well, and I got a bit, sometimes my mind wandered, I got a bit bored with them."

S20 made a similar comment during her interview:-

S20 "Some of the slides were a bit boring, it was the same patients over and over again."

The pictures on the slides were also felt by the majority of learners to be explanatory as can be seen from the answers to Question 7(d) on the evaluation sheets. One or two of them did ring numbers 5 and 6 towards the "Not explanatory at all" end of the 7 point scale, but this was rare. A few written comments were made on the evaluation sheets for Programmes 2a and 3b to indicate that a specific point or section was not very explanatory.

Programme 2a

U2 "Slides 41 and 42 needed slide between if possible or some practically better explanation of lifting procedure."
This section was describing the best method to lift a patient out of bed for the first time following a Charnley Total Hip Replacement. On reflection I agree with U2's comment that a middle stage to this operation needs to be illustrated to give a really clear explanation.

Programme 3b

S20 "I found the part about suspension and Baulkan Beam difficult to understand."

P6 "I thought the Baulkan Beam traction was quite confusing when explained on the tape and hard to follow."

U7 "Types of traction difficult to understand at first, I had to play it through twice and some parts several times."

When producing this programme I had debated whether to put a diagram as well as illustrations of a patient on suspension from a Baulkan Beam, but decided against it. In light of these comments I feel a diagram would have explained the situation more clearly.

However just to illustrate how conflicting many of the learners' comments were on the evaluation sheets I include the following comments also made after completing Programme Three (b).

U1 "Good about Thomases Splint and Baulkan Beam particularly."

U3 "Very relevant and although I had picked up the general principles on the ward these (slides) showed me the finer points which are not immediately obvious on the ward."

Almost all the learners who filled in the evaluation sheets said that they found that the slides were clearly in focus. There were two exceptions who repeatedly ringed numbers (4), (5) or (6) in answer to Question 7(b) indicating that they found the slides rather blurred. These were S5 and S28. Although S28 did not enlarge on this either in writing or verbally S5 did discuss this problem during her interview.
"I don't know whether it was my eyes or the slides, but they were very blurred to me."

"Did you find that? I noticed you put that (on the evaluation sheet).

"Mm, I know I've got bad eyes, anyway, but even with my glasses on, it still wasn't clear."

"So how did you react to that?"

"I think, because of it, I didn't look at them that closely, because I couldn't see them in such detail."

"No, you really couldn't pick out the individual bits?"

"Er, most of it was alright, it was just - you know - the smaller things, like the weights and things weren't too clear."

"No, how about the lists, the writing?"

"That was alright, if I concentrated on it for a while, so I managed to get most of it down."

As S5 and S28 were the only two learners who had this problem it seems most likely that it was due to their poor eyesight. S5 was going to have her eyes tested.

One particular slide was picked out by several learners as being difficult to see as the titles were too small. This was slide 23 in Programme Two(a). This was a photograph of a book illustration of a Charnley Total Hip Replacement in position after surgery. This was a black, white and sepia illustration which although very clear in the textbook did not show up to best advantage on a slide when using a hand viewer.

The following comments were made about this slide in answer to Question (9) on the evaluation sheets.

"Felt that on slide 23 (diagram of hip replacement) the titling of various parts was a bit too small, (might just have been my eyes on the other hand)."
"I found the diagram on slide 23 labels too small to read. Otherwise a well presented tape and slides."

One of the pupil nurses wrote on the evaluation sheet for programme four:--

"A & P of the spinal nerves I found difficult (horrid small print)."

This was another diagram which had been photographed from a text book. Although the diagram was very clear and explanatory the small print was hard to read on a hand viewer. No complaints were made about any of the diagrams or graphics which had been specifically prepared for the tape/slide programmes.

The question on the evaluation sheets which received the most diverse answers in relation to the pictures on the slides was question 7(c) which was concerned with the frequency with which the slides were changed. For example for Programme Two (a) some members of all three groups answered towards the opposite end of the scale as illustrated in Table 7(A)4(xii).

Programme Two (a)
Question 7(c) The pictures on the slides were:--

Student Nurses

<table>
<thead>
<tr>
<th>Changed too frequently</th>
<th>4</th>
<th>13</th>
<th>56</th>
<th>17</th>
<th>8</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not changed often enough</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Pupil Nurses

|   | 10 | 40 | 40 | 10 | % |

University Students

| 16 | 16 | 50 | 16 | % |

Table 7(A)4(xii) Results from Evaluation Sheets for the Tape Slide Programmes Illustrating the Diversity of Answers to Question 7(c)
The other two programmes where this divergence of opinions is most marked are programmes Three (a) and Three (b) (see appendix 24).

The only specific comment which relates to the frequency of changing the slides was made on the evaluation sheets for Programme One and has already been cited in Part (iii) (The Narration) of this section.

U1 "A good introduction but some of the spaces between the slides were too long and you thought the cassette player had stopped."

U6 did make a comment on the evaluation sheets for Programme Two (a) which touched on the frequency with which the slides were changed: -

U6 "For some of the slides I had to rewind the tape several times as there was too much information to take in in the short time allowed e.g. slides 15, 16, 18."

This student should in fact have stopped the tape when she was reading the information on these slides in order to take down some notes for her work book.

In summary, the results from this study show that the learners in all three groups found the illustrations on the tape/slide programmes interesting. However there were a few isolated instances when the same picture was used in more than one programme, that individual learners found it boring. The great majority of the illustrations were also felt to be explanatory. One or two specific instances were cited where more explicit pictures or diagrams would have been helpful. This was rare however and was mainly related to the part of Programme Three (b) which described the use of the Balkan Beam.

Apart from two students who felt that their eyesight was poor all the learners had found that the pictures were clearly in focus. Two specific diagrams which had been taken from text books were found by several learners to be
difficult to see. This applied particularly to the print which was rather small. There were no complaints about any of the diagrams or graphics which had been produced solely for these tape/slide programmes.

The greatest diversity of opinion relating to the slides concerned the speed at which they were changed. Just over half the learners felt this was satisfactory. The remainder in all three groups were divided between those who felt that the slides were changed too frequently and those who felt they were not changed often enough.

A(4)c(v) The Activities for the Students

The following information given on page 29 of the students' work book/study guide describes the activities which are included in all but the first of the tape/slide programmes:

"Certain activities are incorporated into most of these programmes when you will need to stop the tape to draw or study diagrams or to copy down information. Spaces have been left in your study guide for you to do this work, but in some cases you will also need one or two of the bones which are provided in your holdalls. It will be helpful to have two different coloured pens or pencils available for all of the programmes."

Most programmes include four or five student activities. Sometimes these would be concentrated in the first ten to fifteen minutes of the programme (for example Programme Two (a)), whereas in others they would be spread throughout the programme (for example Programme Three (a)).

I included five questions on the tape/slide programme evaluation sheets relating to the inclusion of student activities. These questions covered the following areas:
### Question 8 The Activities in These Programmes:

<table>
<thead>
<tr>
<th></th>
<th>a) Added to the value of the programme</th>
<th>Were a waste of time</th>
</tr>
</thead>
<tbody>
<tr>
<td>b)</td>
<td>Were childish</td>
<td>Were a useful form of learning for an adult</td>
</tr>
<tr>
<td>c)</td>
<td>Gave one time to assimilate facts and ideas</td>
<td>Interrupted the continuity of the programme</td>
</tr>
<tr>
<td>d)</td>
<td>Were difficult to manipulate when using tapes and slides</td>
<td>Were not too difficult to organise when using tapes and slides</td>
</tr>
<tr>
<td>e)</td>
<td>Were enjoyable</td>
<td>Were aggravating</td>
</tr>
</tbody>
</table>

The learners were also asked about the student activities during their interviews.

The data showed that the vast majority of learners in all three groups felt that the student activities added to the value of the programme and that they were a useful form of learning for an adult. The following comments from the interviews illustrate these views:

**Student Nurses**

Q "Do you think it helped to have those (the spaces in the work book) to fill in?"

S10 "Yes, definitely."

Q "In what way did it help?"

S10 "Well, as I say, you can watch something but not really take it in but that sort of gathered it up together, you could sort of, if you write something down you don't forget it."
Q: "So it helped you to learn it do you think?"

S10: "Oh yes, definitely."

S12: "I like the idea of having little spaces to fill in and everything."

Q: "What kind of feeling does that give you to have the spaces to fill in I mean?"

S12: "I like the fact that I'm going to be able to keep this and be able to refer to it." (the work book).

S22: "It's not just the tape/slides, you don't just listen to it, it's quite good that you have to actually write something down which means that you've got to listen to it, that was quite good."

Q: "So that way of learning?"

S22: "Yes, with a book as well that you have got to participate in whereas if you're just listening you could be thinking about ten dozen other things, whereas you have got to listen to what the person is saying for you to do something."

Pupil Nurses

P1: "I enjoyed drawing things."

Q: "Did you like having something to do as you went along?"

P4: "Yes, because I had something to write and things rather than just listening and that all the time, do you see what I mean?"

P6 wrote the following on the evaluation sheet for Programme Three (a):

P6: "I think that doing things while the tape is on is useful from the point of view of remembering and helps you keep interested."

During her interview she said:

P6: "Oh, I think that was helpful, because again, it aided your concentration, I think if you had sort of tape for 45 minutes with nothing to do, and you were just sitting looking at pictures, I don't think that would have helped. Doing the drawings and things helped really."
After watching Programme Three (c) P6 wrote the following on the evaluation sheet:

P6 "The programme went on a bit and there wasn't really enough to hold my full concentration - the work book could have been used more to overcome this (i.e. more activities needed)."

University Students

Q "You had activities in the programme, you had to stop and do something. What did you think about that?"

U3 "I was quite happy to do that, because I stopped the tape sometimes, anyway, when I was taking my own notes, so that I could get it down before the next bit or whatever. So that was quite alright."

Q "Yes. Do you think it added to it?"

U3 "Yes, it did. It made you stop and think about what you were doing. Instead of it going in one ear and out the other. You actually had to stop and do something."

This student also felt it would have been beneficial if there had been more activities as suggested by P6.

Although the majority of learners felt that the activities gave them time to assimilate facts, quite a few of them in all three groups felt that they interrupted the continuity of the programme. This applied particularly in Programmes Two (a), Two (b), Three (c) and Four and was most marked in the University students. Although they were in the minority quite a few of the students and University students also found that the activities were rather aggravating. This was particularly the case in Programmes Two (b), Three (a), Three (c) and Four. The following comments from the interviews include some of the reasons given as to why stopping to do the activities was aggravating:

S18 "I think I prefer just a straight tape to be able to, I know the things that were given to you were just guidelines but to be able to just listen to a tape and pick out what you wish to pick out or what you wish to leave."

Q "So less directive in a way?"
S18 "Yes, just to be able to play the tape and listen to it and make notes if you want to."

Q "Do they (activities) help you as an individual?"

U7 "Sometimes, I mean I must admit when I'm working, trying to learn things I do have to write things down, but I found that with a lot of the time I was just copying the slide and it was sort of, I was looking at it and it was going straight through to my pen."

However the majority of students and University students and all the pupil nurses said that they found the activities in the programmes enjoyable.

A few learners had difficulty in doing the activities while manipulating the tape and slides.

A(4)c(vi) The Follow-Up Exercises

Apart from Programmes One and Three (b) these were exercises in the students' study guides/work books for them to complete after they had worked through each programme. The aims of these follow-up exercises was to link the content of the programme to specific patients whom the students were nursing on the wards. For example the follow-up exercise for Programme Two (b) is:-

As soon as possible after watching this programme find patients on your ward who have had fractures of the upper end of the femur and collect the following information:-

* Where is the fracture?
* Indicate its position on a diagram.
* What caused the fracture?
* How was it treated?
* How is the patient lifted, moved and positioned?
* What other problems does the patient have?

At the end of the work book/study guide (on page 62) there was an additional section for learners to keep a record of the patients they had nursed who had orthopaedic implants inserted. In each case learners were asked to
record the patients Name, Age, Reason for using the implant and any Special Nursing Problems.

Table 7(a)4(xiii) shows the number of learners in each group who completed these exercises.

<table>
<thead>
<tr>
<th></th>
<th>Prog Two(a)</th>
<th>Prog Two(b)</th>
<th>Prog Three(a)</th>
<th>Prog Three(c)</th>
<th>Prog Four</th>
<th>Record of Patients With Implants</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student Nurses</td>
<td>43%</td>
<td>23%</td>
<td>16%</td>
<td>10%</td>
<td>6%</td>
<td>16%</td>
</tr>
<tr>
<td>Pupil Nurses</td>
<td>63%</td>
<td>63%</td>
<td>45%</td>
<td>45%</td>
<td>27%</td>
<td>100%</td>
</tr>
<tr>
<td>University Students</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
</tr>
</tbody>
</table>

Table 7(A)4(xiii) The Percentage of Learners in Each Group Who Completed the Follow-Up Exercises to the Tape/Slide Programmes and the Record of Patients With Orthopaedic Implants

It can be seen that the University students completed these exercises for all of the programmes. Overall the pupil nurses completed 57% of the exercises but for the student nurses it was only 19%. Both groups did the most work on Programmes 2(a) and 2(b) and tailed off towards the end.

In their interviews the student and pupil nurses gave three main reasons why they did not complete more of these follow-up exercises. The first and most common one was lack of time. The second one was that they did not have the appropriate patients on the ward. Thirdly several learners who did have the appropriate patients did not do the exercises as they felt that they could remember the necessary details.
"Yes, that's a good idea (doing the follow-up exercises) but it does not always work because you do not always have time to get, you know, go and find out about the patients, although you know there is a patient there."

"I didn't have the time to do the follow-up exercises - I thought about some, I haven't actually written it down on paper."

Did not have time to do any follow-up exercises but felt that it would have been useful.

"I think it would have concluded it really, just haven't had time on the ward." (sounded rather desperate)

"I didn't actually fill them (exercises) in the book, but I think because I'd done a lot of them when I'm nursing patients, and I've done it on the ward but I haven't filled it in."

"So you just thought about it?"

"Yes, everyday nursing sort of thing, you had to think about it."

"Do you think it helped to have that to do afterwards, relate it to the ward and a particular person?"

"Yes it did, if you could do it, if you had the patients on there, but you did not always have the right patients."

"I did some of it, but not as much as I should have done actually, partly because I didn't have time and partly because the patients weren't available."

later

"I think I will probably remember the patients anyway without doing the exercises."

Although U6 did complete the follow-up exercises she also felt there was no need to write all the patients' details down.
"Was it helpful?" (Follow-up exercises)

U6 (long pause) "Well it wasn't you know, that helpful really because when you're doing it you imagine patients who have got, you know, whatever you're talking about anyway, so."

U6 considered it would be more useful to do three care plans rather than getting small amounts of information on a large number of patients.

Other learners who did the follow-up exercises did however find them useful. They particularly liked relating the work in their study guides to the patients they were nursing on the ward.

"Do you think it's helpful to do that?" (exercises)

S20 "Yes, you can relate it more to the ward work then, yes quite good."

U7 "Yes, I think I found I could relate to the ward, I mean relating to the work I was doing in the book to the ward."

U4 "Yes, they were useful as it was nice to have someone in mind, it's nice to think 'Oh that's like whoever' and you know sort of to relate to it."

S12 who did more of the follow-up exercises than any of the other students described how she approached the task.

S12 "I went round yesterday and asked several patients how they feel about things (relating to the follow-up exercises) and they were very helpful."

"And do you think that was a useful exercise?"

S12 "Yes, I also asked the staff in my coffee breaks and things."

Using this approach S12 said she was able to complete all the follow-up exercises in about an hour.

In summary, the data show that there were marked differences between the three groups of learners in the number
of follow-up exercises which they completed after working through the tape/slide programmes. The University students completed all the exercises. The Pupil nurses completed 56% and the Student nurses only 19%. The main reason given by the student and pupil nurses for not completing these exercises was lack of time. Others said they did not do them as there were no appropriate patients on the ward. A few felt that there was no need to record the patients' details as they were able to remember them, particularly if the patients were in hospital for a long time as they often were on the orthopaedic wards.

Learners from all three groups who did complete the exercises agreed that they were useful as they helped to relate the work they did on the learning package to the patients they were nursing on the wards which after all was the reason I included this exercise.
The Articles

In each learning package there were copies of twenty-four recently published articles from a variety of nursing and medical journals on a range of topics relating to orthopaedics and orthopaedic nursing. Articles which discussed a common topic were put together in a folder. For example, Folder I on "General Information on Fractures" contained five articles from a variety of journals, i.e., Nursing Mirror, Nursing Times and The Journal of Bone and Joint Surgery. Each folder was numbered to cross-reference with one of the orthopaedic implants which were displayed in the Instructors Room. Learners were encouraged to read at least three of these folders which included the most common topics they needed to learn (see page 52 of the workbook/study guide).

If the learners used these articles they were asked to record how long they spent reading them in their self-report diaries together with details of all their other learning experiences.

The following table gives an analysis of this data giving the number of learners in each group who read the articles, together with the amount of time which each group spent.
Time Spent | University Students | Student Nurses | Pupil Nurses
---|---|---|---
½-1 hr | | 5 | |
1-2 hrs | 1 | 4 | 3
2-3 hrs | 3 | 2 | |
3-4 hrs | 1 | | |
4-5 hrs | | 1 | |
Totals | 5 = 71% | 12 = 40% | 3 = 25%

Table 7(A)4(xi.v) The Number of Learners in Each Group Who Read the Articles and the Amount of Time Which Each Group Spent

N.B. More than three pupil nurses mentioned using the articles during their interviews although they did not record the fact in their diaries.

The following is a selection of comments from the interviews made by learners who did use the articles.

University Students

Q "How did you use the articles?"

U1 "Yes, well, I just read them in a couple of evenings. Um, (they were) not relevant with what I was doing - the tape/slide thing. I just sort of read them, just in odd moments."

later
"I read the articles the first couple of days, and then I started doing the tape/slides and what not, so I did those before I did anything else."

This student felt that the articles were a good lead-in to the other work and helped her to understand the new terminology.
"I read them all (the articles) and some I found more interesting than others, most of them I left right to the end, you know when I went to see that operation - the Charnley?"

"Yes".

"...I read the night before or the night after, and hip and joint thingies, I thought that would be quite useful, but that was the only one I sort of read in context, the others I just read - they were the things that got left to the end, I just read them right at the end."

Later on this student went on to say that it would have been more helpful if she had read them earlier on. Overall however she felt she did not take in very much from reading the articles and felt that better guidelines could have been given about the best time to read them. "...because I'm sure they could be more useful than I made them. They just seemed the least sort of interesting things on the surface and I just left them to the end."

U6 also left the articles until the end.

"How did you decide when to use them?" (the articles)

"I just read them when I'd finished doing everything else, I just picked out what I thought would be interesting."

U7 however used the articles in the middle of the allocation and chose the ones she felt were the most relevant. "I read the fracture one and the hip one and the one on external fixation, because I felt those were the most relevant to the work that I'd come across on the ward."

Student Nurses

"I read them all. I didn't find the screws and plates one very helpful, that was a bit more technical towards the theatre side, but the others I did."
S2 "I read quite a lot of those (articles). I quite liked those. I read the fracture one and the hip one and the other one. But I took ages reading those, I mean, I'd sort of read a couple of paragraphs and stop, go and do something else, come back...."

This student spent four-and-a-half hours reading the articles which was longer than any other learners in the sample.

later

S2 "I'm a book worm, I eat books it's a funny thing, I just read a whole book straight off."

S8 "I read a few of them, the fractures and the hip joint. I used the hip joint in relation to the tape slides on hip joints with the work book."

This student had not read many articles before and felt that generally she preferred to read text books.

S8 "Sometimes, articles just made me a bit more confused."

S24 "They (articles) are quite useful."

"A lot of them tend to be more on the medical than the nursing side of things. I went through quite a few of those, little bits of about half of them."

S28 read a couple of articles and "skimmed over the others". She did not think there was a need to issue articles at all.

S28 "We don't really need loads of books, I've got too many books at the moment."

Pupil Nurses

Several of the pupil nurses took the articles to work to read on night duty when they had some spare time.

P7 "If I had a few minutes to spare I sort of picked it up and would read through, I think I looked at most of them."
"I took them to read a couple of nights when I was working, mainly the hip ones and the fracture one."

later

"They were quite good. Some of them were quite interesting, because it's difficult, because you get disturbed all the time on the ward, but they were, yes they were quite good."

---

P6 also read the articles when she was at work.

"Yes, I used all the ones on fractures because most of our patients have got fractured limbs and things like that, and I found those interesting."

P10 read "a couple of them".

"That helped me a lot with what was on the ward."

A few pupil nurses said they were not interested in the articles.

"I read a few on the fractures - a bit"

later

"I don't find them that interesting quite honestly."

---

"I had a look through but I didn't find them interesting."

later

"They are a bit like handouts, I don't think anybody tends to read them, they just get shoved back into the back of the file."

Overall very variable use was made of the articles. They were used the most by the University students and the least by the pupil nurses. Of the learners who did use them a few used them at the beginning as a basis to all the other work. Others used them as they worked through the package relating them either to one of the tape/slide programmes, a programmed text or to one of the patients they were nursing, which they found useful. The majority left the articles to the end and read them when they had finished the other work.
Several of the pupil nurses took them to work with them and read them whenever they had a chance during the night.

Several suggestions were made about ways in which the articles could have been used to better advantage. These included giving more specific guidelines in the work book as to how they should be used and keeping them in the ward areas so that they could be used whenever there was any spare time.

A few learners, especially the pupil nurses, said they did not find the articles very interesting and that they did not remember as much after reading them as they did from using the tape/slide programmes.

Some learners commented that the articles from the nursing journals were more interesting and beneficial than the ones from the medical journals. However, others appreciated having a wide range of information at different levels.

A(4)e The Pre and Post Tests

All the learners were given a pre-test before they started using the package and a post-test on completion of their ward allocation. Details of the way these tests were administered and marked are given in Chapter 6.3 and 6.6.

During their interviews I asked all the learners their opinions about doing the tests. Without exception they all agreed that this was a useful and helpful strategy and one which they would welcome on all the wards. The following are examples of the comments made by the various groups about the tests:

University Students
Q "What do you think about the concept of doing a test?"
U6 "I think it's a good idea."
later

"It shows that you have improved and that you have learnt something. I think when you know there is going to be a test (at the end) you make sure you do the work."

Q "Do you think it had any effect on how you went about doing the work, having done a test at the beginning?"

U7 "Oh yes, I think it did."

Q "And then I made a list of where you had gone wrong."

U7 "Yes, I felt having a test beforehand, I mean it gave me a bit of confidence, because I felt oh I do actually know a bit about the subject, or with somebody perhaps, you might think, oh yes well I've got a lot to learn, and if you do it a lot better in the post-test you feel that you have gained something."

later

U7 "If we had a test on every ward I think it would give you a lot more motivation to actually learn something from the ward, and you'd think 'Oh yes, I've got a test, it going towards my degree' or 'it's going towards my exams at the end of the year' and there would be a lot of incentive."

Student Nurses

S22 liked the idea of being tested on the wards:-

S22 "...because you don't really get tested on the wards to find out if you do actually know the stuff really, it's just left up to you, to ask people questions or look it up in your own time, but nobody ever actually says to you, now tell me about so and so on the wards at all really, it's just left up to you."

S26 "Well it's constructive (being tested) because you know if you have learnt more or if anything's taken in, because I can read but not take anything in, whereas doing the test at the end I know that in fact I have taken it in, although perhaps I didn't think so, it proved to me that I have achieved something at the end of it."
S30  "That's a good idea (having tests) especially when you'd written out the list of the areas that we weren't very good at and what we needed to concentrate on."

Pupil Nurses

P5  "I think it's a good idea, because, I mean, I did quite well. So I mean it does prove to you that you can do it, and it did help. I think it did anyway."

P4  "It's quite good really, it makes you think more I think because you want to get it right, you know, and I think it probably does make you think more."

P7  "I like the pre-and post tests, yes. It shows that you have learnt something."

later

P7  "It's nice to know sort of the pre-test that you're not under any pressure, you know, it doesn't matter what you get we're just trying to see how much you know, you know, you're not under any pressure at all, you don't think, 'Oh my goodness, I've got to get so much percent, otherwise that's it.'"

7(A)5  THE EFFECTS OF VISITS FROM A TEACHER

All the learners who took part in the project had several visits from a teacher during the time they were working through the learning package. While the main research project was running I made these visits myself apart from the few occasions that I was away, when they were done by a colleague.

The aim of these visits was both to monitor the project and to ascertain what effect, if any, regular visits from a teacher would have on the learners' motivation to work. I recorded details of all the visits I made between September 1983 and May 1984 in my own diary. On average I would see the learners on day duty once every week and those on night duty once every two weeks. On one or two occasions
I telephoned the pupil nurses on night duty if I was unable to visit them.

The length of these visits ranged from five to ten minutes if the ward was very busy, to half-to three-quarters of an hour if the learner could be released from their clinical duties. On day duty particularly the latter was often very difficult, and on October, 14th, 1983 I wrote the following comment in my diary:-

"I have to hover about an awful lot to get a student to talk to. Generally very busy. However all the ward staff are very co-operative."

For the short visits the dialogue between myself and the learner often took place in the ward corridor, sluice or bathroom as they paused for a few minutes between duties. For the longer visits we were able to sit down at the nursing station or in the ward office. On the whole it was possible to arrange a longer visit to the pupils on night duty as long as I waited until 10.30-11.00p.m. before going to the ward.

From the records I kept in my own diary I have put together a synopsis of the topics and issues which were discussed during my visits to the learners:-

1) Discussion as to how the learner should do the work in the package. The most common topics which arose included the amount of work which should be done, the order of the work, issues relating to the self-testing, the follow-up exercises and general reassurance and encouragement relating to the learner's progress.

2) Technical problems relating to the equipment in the learning package. The most common problems related either to the bulb or the plug of the slide viewer.

3) General discussion about individual patients on the ward. On occasions it was possible to refer the learner to the contents in the package which would help to give them a better understanding of how to care for a particular patient.
On November 11th, 1983 I made the following entry in my diary:–

"It is really nice for the tutor running this (project) to know individual patients in order to discuss nursing problems with the student."

If the teacher did not know the patients it would be difficult for them to really help the learner with problems relating to individual patients.

4) Issues relating to data collection for the research project. For example reminding learners to complete their self report diaries and evaluation sheets and making arrangements for their final interviews.

5) Discussion about other issues apart from the package which concerned the learner in relation to their work. For example ward assessments, examinations, other work assignments or general problems related to their work on the ward.

6) Discussion about personal problems which were affecting the learner’s work. The most common problem for the pupils on night duty was being unable to sleep during the day.

7) Making arrangements for the learners to do their posttest and return the package.

During my interviews with the learners I asked their opinions about my visit particularly in relation to the way it affected their motivation to do the work in the learning package. Although they all appreciated seeing a nurse teacher more frequently than usual, they were divided in their opinions concerning the way it affected their motivation to work. Some learners, particularly the University students, felt that they would have done the same amount of work whether I had visited them or not, although they did say they felt more inclined to do the work when they saw a teacher frequently. Other learners, particularly the pupil nurses, definitely felt that they did more theoretical work because they saw a teacher frequently. The following quotations from the interviews illustrate these points:–
a) Those who felt they would have done the same amount of work without visits from a teacher.

University Students

Q "Do you think it makes a difference that you see a tutor about this work, about the package during the six weeks?"

U4 "Not so much because it's all very well laid out how much you've got to do anyway, so you know how much you have got to do, so it's easy to plan it yourself."

Q "Does it make a difference that somebody asks you about the theoretical work you're doing?"

U6 "I think I probably would still have done it, but I think it does make a difference, you know, it gives you encouragement if someone's asking you about it."

U7 "I don't think it made any difference to the way I was going about the work, but I think it made a difference in terms that I felt that somebody was keeping an eye sort of thing, taking an interest."

Q "So what effect do you think that has on you as a student?"

U7 "I think it gives you more motivation, definitely."

Q "But, you think you'd have done probably the same amount of work if you hadn't seen anybody?"

U7 "Oh yes" (very positive answer).

Student Nurses

S20 "I think I would have worked just the same, it's nice to know someone is sort of taking an interest in your work and things, but I don't think it would have made any difference."

Q "Did my visits make any difference to the way you did the work?"

S10 "No, not really." (laughs)

later

"Well, I think it's very self explanatory, I don't think anybody should find any problems with it really.
I can't see any problem, I think it was all so well explained, I can't really see any problems, O-kay, if the projector broke down or something like that, perhaps, well obviously I'd come and see you or something like that, but I think actually those tape slides and that, I mean, I can't see anything that you couldn't understand personally."

S6 thought that in order to be helpful my visits should have been longer.

Q "And what about my visits, I know they were all a bit of a scramble, do you think that made any difference as to how you went about the work?"

S6 "I don't really no, sorry."

Q "No, that's alright, a lot of people have said that. Do you think if we could have had more time it would have made any difference?"

S6 "Yes, yes probably if we had sat down and gone, if I'd had my book with me, gone through it."

Q "What sort of time do you think we would need to set aside to be a useful time, to talk to the tutor about the work?"

S6 "I think, sort of, like the end of the first week, so you can see how we are going to start doing it and, sort of, really if we need directing then direct us into the right way to go about things, but otherwise well just to keep an eye on us."

Q "...so that you could get the teacher if you wanted?"

later

S6 "......because if we need you we could always get in contact with you. It's just that first, sort of, week really, knowing just where to start."

S12 was uncertain whether my visits had any effect on the way she worked or not.

Q "Do you think that made a difference to how you went about the work, the fact a tutor visited you or came to see you?"
S12 "Yes, I felt I had to get on with it because I knew you were coming to ask me if I'd done any. I don't like having to say 'no I haven't done any yet.'"

Q "So do you think if for instance, the procedure was just to give you the stuff at the beginning and collect it at the end, you would have done as much?"

S12 "Probably have not. Well, I don't know though, because I'm the sort of person that will get on with work on my own, so I probably would have done it, but it's just nice to know that somebody's behind you as well."

Pupil Nurses

Q "Did you find that made any difference to how you worked? . . . knowing that somebody was coming to see you?"

P3 "No, not really."

Q "It would have been the same if I hadn't come, do you feel?"

P3 "Mm (yes). No, I enjoyed doing it. It was interesting."

Q "Do you think I could have helped you any more, when I came?"

P3 "No."

Q "So if you were issued with all these, and the tutor didn't have time to come, do you think you would have worked just as hard?"

P3 "I would have done, yes."

P10 felt that she would have done the same amount of work if she had not been visited by a tutor, however she felt the visits encouraged her to start working sooner.

P10 "I probably would have done it, but perhaps I would have done it in the last week. Perhaps I would have thought, 'Oh, you know, I'll finish on the ward next week - I'll do it this week', whereas when you come on the wards, I thought, 'Well, I'd better have done some, so that I can tell her I've done some more'. I think it makes you spread it out a bit more."
b) Comments from learners who felt that they did
MORE work BECAUSE they were visited regularly by a tutor

Student Nurses

Q "Do you think the fact that I actually did see you
now and again made a difference to the way you worked?"

S1 "Yes definitely, because yet again we don't tend
to get this, you're lucky if we get one visit,
or you're supposed to get visits, but it just doesn't
sometimes happen, and helps you sort of, that
you're not sort of by yourself, floundering sort
of, the fact that someone is sort of supporting you,
helping you along."

later

S1 "Because I tend to sort of, I get all enthusiastic
at the beginning and then it sort of wanes toward
the end and I need someone sort of to say, 'how are
you getting on?'.

Q "What was your reaction to being visited by me?"

S2 "I think it's good, because I mean, I'm a kind of
person - I need sort of - I don't need to be given
something and just abandoned; I've got to sort of
have someone come and see me. I think, 'oh, they
might be coming to see me. I'll do it and then,
if I get any queries I can ask them'. Whereas,
if you don't come, I think I'd think 'Oh, I'll do
it tomorrow'. You know, tomorrow never comes.
But you know, I found it quite good, because I did
want to work through them, and you just kept
appearing and I could ask you any questions."

Q "Do you think it makes a difference as to how you
go about work if a teacher or someone from the
school does see you?"

S22 "Totally, it really makes you think they're interested
in you, because a couple of times we've been left
totally on our own for eight weeks and it makes
you a bit resentful because they don't come and
see you, and you think 'can't they come and see us
for ten minutes, just to say hello or anything',
you know just like that, but it is good when people
come in and see you."

Q "So do you think it makes a difference to how much
work (study) you do?"

S22 "Yes, it makes you more enthusiastic."
Q  "Do you think it (the visits) makes a difference as to how you work?"

S26  "Yes, I do."

Q  "What sort of effect do you think it has on you?"

S26  "Well it's nice to know that you're not just a pair of hands but somebody is interested in what you're learning."

Pupil Nurses

By far the majority of the pupil nurses (75%) felt that having regular visits from a teacher when they were working on the ward did make them work harder at their studies. The following comments are a sample of the reasons which they gave.

Q  "Do you think it makes a difference if a teacher comes to visit you, on the ward? A difference to how you feel about doing the work? I mean the theory work?"

P5  "Oh yes, because I mean, at least it shows that, you know, you're not just piled off with something, and then nobody bothers to come and see you. Because, I mean, I've never seen the tutors from the school, since we left." later

Q  "Do you think you would have approached the work just the same, done as much work, if I hadn't come to see you?"

P5  "Probably not, no, because I probably would have thought, 'Well, if they're not bothered, then I'm not that bothered, either.'"

Q  "But do you think it made a difference, the fact that a teacher came to see you, during the time you were doing the work?"

P6  "Yes, because it gave you an incentive, to know that someone was thinking - you know, that what you were doing and the work that you had to do - and that someone was, well, caring about what you were doing, and you weren't just left for the whole eight weeks with no one to see, really."
P7 "I think, yes actually you coming in I think sort of prompted me to do the work I think, because you know as I said, I started off sort of doing it really fast and I knew that you were coming in sort of thing, you know but I don't know maybe I would have left it later, I mean I don't know...."

Q "You've done a large amount, you've done very well."

P7 "Because you came in quite a lot, because I was kept on my toes sort of thing."

P8 "It kept you interested to know that someone was interested in what you were doing, it sort of made you think, well if they're making the effort we should as well."

Q "Do you think that makes a difference the fact that a teacher sees you?"

P9 "Yes, very very much so. I really do, it really does make an awful lot of difference. I've said this to a lot of people actually, yes to know there is someone there who you can be able to talk to if you've got any problems, yes I think it makes an awful difference."

Q "What effect do you think it has on the way you approach the work or you do the learning?"

P9 "I think with me, I think it helps and I think you work, well I think you work better, I don't know if it's just me, I don't know."

Q "Yes, well it's only you that I'm interested in at the moment!" (both laugh).

P9 "Yes, well I find, I think it's nice."

Pupils (2), (4), (11) and (12) also made comments which were in agreement with the quotations which have just been given.

Overall the data shows that although all the learners agreed that it was encouraging for a teacher to visit them regularly while they were working through the package and that this increased their incentive to work, some of them at least would have done the same amount of work whether
or not they had seen a teacher. This feeling was held mostly by the University students and least by the pupil nurses. This group felt that the work in the package was self-explanatory and easy to follow and plan for themselves. This meant that they did not have any queries or problems to refer to a teacher. As they enjoyed the work and found it interesting they were quite happy to work independently. However several of them did say that if a teacher was unable to visit, a method should be devised so that they could make easy contact if problems or queries did arise relating to the learning package.

The second group of learners definitely felt that they worked harder because they were visited regularly by a teacher. This feeling was held most strongly by the pupil nurses but also applied to quite a high proportion of the students. This group liked to know that someone was supporting them and that they were not left floundering on their own. They liked to know that somebody cared about what they were learning and was showing an interest in their progress. They felt more secure knowing that someone was coming who could answer their questions and help to bolster them up as they progressed with the work. One pupil nurse said that she started the work earlier because she knew that a teacher would be visiting her, rather than leaving it all until the last week.

"Pressured by competing demands on their time students have to make decisions about learning priorities - one criterion they use to help them decide is relevance. Students judge the relevance of a topic according to how well they can perceive a relationship between that topic and their ultimate goal of becoming a nurse."

Ewan and White, (1984) (p 54)
The overriding aim of any educational programme which sets out to prepare its students for a specific progression is undoubtedly that they acquire the relevant knowledge, skills and attitudes in order that they may become competent practitioners in their chosen field.

It is for this reason that the final section of this part of the data analysis is concerned with relevance. I was anxious to establish if the learners felt that the information they acquired from the package was relevant to their clinical work. If so, were they consciously applying what they learnt to practice and was it improving that practice in any way. I was also keen to ascertain if the learners felt that any of the contents of the package were irrelevant to their practice and if they caused any conflict with information which they gained from the permanent staff on the ward. Chapter 2.2(b) gives details of several previous studies which highlight the dichotomy between what was taught by the School of Nursing and what was practised in the ward (Bendall (1973), Hunt (1974), Birch (1975), Jones (1975), Gott (1982)).

In order to follow the above line of enquiry I asked the learners the following questions during their interviews:-

1) Did you find all the information in the package was relevant to the work you were doing on the ward?

2) Thinking about the actual nursing practice, the work you've done on here, have you ever thought about or acted upon anything you've learned from the package while you've been caring for a patient? Is there anything that you can remember?

3) Was there ever a time that anything you'd learnt from the package was in conflict with anything that anyone else told you to do or suggested you should do while you were working on the ward?

By far the majority of learners from all three groups felt that the information in the package was relevant to their clinical work. The following are examples of answers which they gave to question one above:-
"Yes, very much so."

"I think it was all relevant - yes it was relevant - yes."

"Yes, I don't think there was anything that was not relevant, I think just even just general A and P, particularly the bit about the nervous system that I, it seemed a bit out of place to begin with, but then after reading through all the rest, I saw how it fitted in."

"Well, it's all relevant towards work, for example laminectomies, hip replacements, knowing what to do is important, especially at night when there are not so many people about to tell you."

"Oh, yes it was relevant to what we were doing."

later

"I think all of it was really relevant, no I think it was a good book and it helped in learning, although I wasn't particularly interested in orthopaedics."

"Yes, I found it relevant."

"Oh yes, very relevant."

"Yes, it was all relevant. Oh definitely."

"Yes, I think most of it was, all of it was, yes."

There were three reasons that a few learners gave, as to why in their opinions, the work in the package was not entirely relevant to the work they had done on the ward.

The first reason related to a temporary lack of patients with the particular problems which were discussed in the learning package. These problems were ones which are generally less common in orthopaedics as a whole:-

"Skull traction and the pelvic belt thing, I mean if we'd have had them it would have been more relevant, but it was interesting, and I mean it might come up."

"Do you think it was relevant?"

"Most of it was, I haven't seen skull traction or any of the special beds."
S28 "Yes mostly, except perhaps for the back thing, we didn't get any back injuries."

later

"Some (programmes) of the lifting aids were not relevant because we haven't used any of them, or the electric turning beds and things like that, we've never seen one let alone used it, but seeing them on the tape slide."

S30 "Yes, except for the skulls, I did look over this, but I never saw any...."

S12 "Well we haven't got anybody on skin traction and we haven't really got any back injuries, we haven't got anybody on a Stryker Wedge Turning Bed and things like that, but they're useful to know about."

Secondly some learners pointed out that there were sometimes patients on the ward with problems which were not mentioned in the package. In these cases the package was not entirely relevant due to omission.

U7 "Yes, on the whole (the package was relevant). There was quite a few patients coming on the ward with problems on the knee, that wasn't really covered, I thought that might have been."

later

U7 "Yes a minor thing, but you know, there seems to be quite a lot of those sort of problems, (knees) and just care of patients in plaster that wasn't really mentioned."

The photographs for a programme on caring for patients in plaster had been taken and the script was in the process of being produced.

Q "Now do you think that everything you did was relevant to the ward work, to the work you were doing on the ward?"

P7 "I think so, I don't think there was anything that wasn't really, I know what I would have liked and that was a sort of little list on how long generally patients are on traction before they go on split beds, how long sort of laminectomies have to lie on their back, just sort of like that."
Q  "More general outlines of total care?"

P7  "Yes, because patients ask of course, how long am I going to be lying on my back, how long am I going to be on this traction, you know, oh look he's got a split bed over there, how long will it be before I get on there, you know sort of things like that."

Q  "Well it's partly because it's such a very individual thing...."

P7  "Yes, it is individual but you can sort of approximate...."

Q  "Well, that's something we could include."

Finally, one student felt that in some instances the information in the package was unrealistic in as much as it presumed there were always enough staff available to use several nurses for certain situations.

Q  "Did you find everything you were given relevant to the work that you were doing on the ward?"

S24  "Yes, it pre-supposes about twice the number of staff though."

Q  "You mean the actual methods of lifting, but do you think that's a bad thing, if that's what should be aimed at?"

S24  "No, no, it's not a bad thing, but if it is going to put impossible pressures, you know if we are not going to get the staff in different areas, in different departments, learning how to do things that are going to use twice the number of staff that you are going to get it's just going to be frustrating."

Q  "Can you think of an example, because apart from the back problems there were no more than two staff. Can you think, if you're talking about the lifting - were you?"

S24  "Not so much lifting really, I think, yes but you do need ideals to work towards, quite often in terms of the time that you are able to spend with individual patients...."
A long discussion followed about the problems of striving for the ideal working situation in nursing as a whole and the difficulties and frustrations which this caused. The student's final comment was:-

S24  "But having said that, I can see that you have to learn the best way of doing things. What is actually aggravating is not the academic side, it's the practical side of often trying to get things done properly and knowing that you have to compromise, that is aggravating, but it's not something that, really the teaching staff can teach away from, because then you're stuck with just learning how to compromise! They do need to, I think sometimes, they do need to make a note of that though, which quite often they don't."

Q  "No, so do you think, I mean, just in those programmes, that it could have said 'there are situations when it could have said 'this may be difficult to achieve'?"

S24  "Yes, I think so yes, because sometimes it is difficult."

A significant number of learners were able to describe occasions when they could remember being influenced by information from the package while they were caring for patients. Some of these memories were of specific instances while others were of a more general nature and concerned either being generally more aware of problems or of being generally more careful with the patients:-

Q  "Did you ever think about or act upon anything that you'd learnt from the package, when you were working with a patient?"

U5  "Yes, I was more careful about getting them out of bed, because I've noticed some people just twist them round as they are getting them out of bed, whereas I had to lift them to the side of the bed."

U7  "I was more aware of what I was doing, and I was doing things differently because I had seen (the slides) you know lifting a patient and getting them out of bed, manoeuvring them and that sort of thing."
"I think I was just more aware, I mean, I don't know, I think it just makes you think more I think. I mean I didn't sort of, when I was going up to a patient, I didn't think, 'Oh right, this is how I have got to do it.'"

"No."

"But I think it makes you more aware of the, you know, problems that the patient may have, like you know, they might be in pain and you didn't realise before you move them, and, I don't know really."

"So more of a general awareness of the different problems."

"Yes, yes."

The specific instances which learners remembered centred around particular problems which were common to all three groups. The positioning of sandbags under fractures was mentioned frequently:

"Did you ever act upon anything that you learnt in the learning packages while you were caring for a patient?"

"...the boys on traction and that, just sort of moving them around and positioning the sandbags. I'm sure it had an effect because it had an effect because I didn't know where you should position the sandbags before, so I'm sure it must have had an effect."

"Patients on traction, and where to put pillows, and where to put sandbags."

"Can you remember thinking about something you'd learnt from the package?"

"Yes I can remember support of the mid-shaft of the femur, where to put the sandbags..."

"Yes, I sort of related that about, like, how to move a patient up the bed with a fracture and um - I've learned from that where I'm supposed to put my hands - position them."
later

"Well, it was just - um - sort of - um - like
positioning the - under the fracture, the sandbag."

S6 "Yes, where to put the sandbags, because that is
very important, because I hadn't a clue where they
were going otherwise."

Q "Nobody else had mentioned it?"

S6 "Nobody had sort of said, no."

Q "During the whole time?"

S6 "No."

Q "Did the patients ever tell you?"

S6 "Oh, they knew where they were supposed to go!"

Q "So in fact no staff had ever told you?"

S6 "No."

On several other occasions the learners stated that
the package had been their sole source of information on
certain aspects of care during their entire stay on the
ward.

U1 "Um, the first time I had to log roll somebody
with a fractured cervical area, I thought that
was very useful. Actually, I had done the tape/
slide the night before and I'd sort of consciously
remembered where to hold, in the book, you know,
position, in the back holding them."

Q "Yes, if you hadn't have done the programme,
would anybody have told you that? Did they
tell you?"

U1 "Er, they didn't say, no."

Q "So, in fact, this was a bit of knowledge that
you would only have got from the slides?"

U1 "Only from the slides -"

Q "Yes."

U1 "In particular."
Q  "Can you think of any other?"

U1  "Um, with the hip replacements, as well, in particular it was useful knowing when you could - um - sit a patient out of bed and certain time levels, what they could do, when - and what with holding, supporting the leg, as well, that was very useful."

Q  "And then again, can you remember any time when anybody specifically told you how to hold the leg, or - ?"

U1  "Well, um, Staff Nurse did say vaguely - not in as much detail as what was on the slide - but again, I'd just done the slide, so I knew already, so she confirmed it, but it was more detail, having done the slides than if I hadn't."

U3, U4 and S14 also mentioned times when they consciously remembered the information on the tape/slide programmes when they were lifting, moving or positioning patients. S16 stated that having seen these programmes made the explanations she received from the ward staff easier to follow:-

Q  "Can you remember actually acting upon anything you'd learnt in the package?"

S16  "Yes, with the hip, after I'd done the hip replacements and getting patients up, knowing when to use the wedge or when to use the pillow, how to roll the patients in plates and things, that I can remember using."

later

Q  "Would you say you've also been told those things in some way by the people who you were working with, like the trained staff?"

S16  "I think they told us about wedges, but it sank in more, with me anyway, became a lot clearer when I'd seen the programme, we were always told in report that they have to have a wedge or they had to have a pillow, and yes we were told that, we weren't always told how to roll them."

Q  "So that you think you got just from the programme?"

S16  "Yes."
Several learners remember applying the information they had gained from the package when using specific equipment such as skin traction, electric turning beds, Crutchfield Tongs and Baulkan Beams with suspension apparatus attached:

Q  "Can you remember a time when you actually thought about something you'd learned in the tape, when you were nursing somebody."

P6  "Um, I think, with lifting and things like that, patients with back problems, when you've got the electric turning beds, things like that, you tend to remember that you've seen them and remember how they work."

Q  "Yes?"

P6  "Um, I expect again, on nights, because I mean, if you come on and there's none of you that have ever worked the electric turning beds, you probably wouldn't know, but I mean, I'd seen the pictures and I remembered that - you know - the buttons and things that you had to do."

P9 also remembers using the information she gained from the programmes when caring for a patient on an electric turning bed.

U2  "I hadn't really seen skin traction before so I saw a patient with skin traction and it was a great deal more interesting because of what the tape/slide programme had said about it."

S2  "When I listened to that one (programme) which has got about the Thomas splint on."

Q  "Yes."

S2  "I mean, we've got that patient in Room 7 with it."

Q  "Yes, I know."

S2  "I mean it made me more aware of it and why it was happening, you know, the suspension and everything."

Q  "Yes."

S2  "You know, one day, I remember stopping and thinking, 'Ah, that's why it's like that.'"
later
S2  "I know another one: it was on the Crutchfield
Tongs."
Q  "Oh yes."
S2  "But it was afterwards, do you know what I mean?
I watched the programme after the patient had
actually come off it."
Q  "Yes."
S2  "I know it was a bit late, but then it made
more sense."

None of the learners could recall an instance when
the information in the package was in conflict with
procedures or care as carried out on the wards. However
they did sometimes find themselves in an unfortunate situation
when they saw some of the regular ward staff carrying out
practices which were not of the standard advocated in the
package: -
Q  "And did you ever see anybody else do anything that
you felt they shouldn't have done, that you'd
learned from the package?"
U3  "I think there have been a couple of occasions
when - just moving patients around - that other
nurses have, maybe, not done it as I would have
thought it ought to be done."
Q  "Can you remember what sort of - what was wrong
with the patient they were moving? What sort
of problem it was?"
U3  "I think it was a patient with an Austin Moore
hip replacement and they were lifting her up the
bed and they weren't being as careful as I
thought they ought to be in keeping her leg in
abduction."

S20 "The only thing that was different (from the package)
was the lifting, when they lift the patients."
Q  "Can you remember which particular type?"
"Well, it's all patients really, they don't seem to plan this, they don't seem to look after the fractured limbs like they show on the tape slides."

later

"So was it a radically different way that they actually went about it or was it just lack of discussion?"

"Yes, lack of, lack of discussion, and perhaps lack of thought that they just go up to all patients and seem to shove their arms under and lift them up."

"Perhaps lifting a Charnley patient, perhaps there is only two nurses, not three, I'd mention that and perhaps the leg wasn't supported, perhaps like you showed in the tape slide."

"So in fact it was more there was something additional in the tape that didn't happen in the ward?"

"Oh yes, there was nothing that was done completely differently, it was more......"

"The trimmings perhaps?"

"Yes, the trimmings, that's a good word."

In summary, the data show that by far the majority of learners in all three groups felt that the information in the package was very relevant to their ward work. However a few learners commented that they did not see some of the more unusual problems which were discussed in the package during the time they were on the ward. One or two others had nursed patients with problems which were not discussed at all.

There was significant evidence to show that the information which the learners gained from the package had a direct influence on the care which they gave to their patients. Learners from all three groups could remember instances when they had based their care on a particular
tape/slide programme or written text. Some of these memories were of specific occasions when they were caring for an individual patient or using some piece of equipment, whereas others were of a more general nature and related to a heightening of their awareness of certain problems and issues which made them more careful all the time.

Several examples were given of the package being the learners sole source of information on certain issues relating to patient care for the whole of the time they were on the ward. One student felt that the content of the learning package helped to give her a better understanding of any verbal explanations that were given by the ward staff.

Although none of the learners felt that the information they gained from the package was in any way in conflict with practices as carried out on the ward, there were a few who could relate instances where the care given by some of the regular ward staff was not of the same high standard as advocated in the package.
7(B) THE PERSPECTIVE OF THE PERMANENT WARD STAFF

Introduction

It can be seen from Chapters 4, 5 and 6 that the permanent qualified nursing staff in the two orthopaedic wards were involved with this project in all its phases. They offered advice and expertise during the planning stage, helped with both the selection and production of the learning materials and were offered a package for their own use once the project was implemented. They also of course worked along side the student and pupil nurses all the time they were on the wards. Their views and opinions were therefore very valuable.

As described in Chapter 6.10, I interviewed a representative selection of these staff including two ward sisters, five staff nurses and five enrolled nurses. The Clinical Teacher who was on night duty when the project was implemented had been a Ward Sister during the planning and production phase so she was able to view the project from two perspectives. Her comments will therefore be included in this section (7B) and 7C which is concerned with the teachers.

The data collected from my interviews with the qualified nursing staff will be discussed under the following headings:

7.B.1 The Production Stage
(2) The Induction Stage
(3) General Impressions of the Learning Package
   i) Types of media used
   ii) The content
   iii) General organisation
(4) The Effect of the Learning Package on the Teaching Role of the Qualified Nursing Staff
(5) The Use of the Learning Package for Inservice Education

7(B)1 THE PRODUCTION PHASE

In Chapter 5.2(c) I described how the photographs used for the tape/slide programmes were taken in the ward areas over a period of a year to eighteen months. This
process had necessitated a great deal of liaison and planning with the ward staff and the patients all of whom had been most helpful and cooperative. In spite of this careful planning there were times when the photographic sessions had caused considerable disruption to ward routines and had taken up quite a lot of staff time. Because of this I was anxious to evaluate the feelings of those who were involved in the early stages to ascertain if there were any re-adjustments or improvements which could be made in any similar projects in the future.

Only five of the staff whom I interviewed had been working on the ward during the production stage. However they were the most senior members of the nursing staff and were therefore the ones who were the most involved.

It can be seen from the following comments that the whole production stage of the project was very well received and that the staff did feel well informed and involved with the whole process:

Q "I wonder if I can go right back to the sort of production stage, when you were a ward sister, and if you could say how the production of the materials, on the ward, affected you as a ward sister - in what sort of way it affected you?"

CT1 "Well, I don't think it affected me adversely in any way. I was always - I think part of the job is being enthusiastic about any teaching procedures that are going on, and I felt quite delighted and - honoured isn't the right word - but very pleased that the ward should be used for this teaching material to be produced. At times one felt guilty if there weren't the time to give you, that you needed, because the pressure of work as you know was always absolutely fantastic, and it was always my wish that we should be as co-operative as possible in helping you to get this work under way, and I enjoyed participating in it, just that."

Q "Yes, well - thank you, er did you feel involved enough in what was happening - given the time you had?"

CT1 "I would have liked to have been more involved, but I felt all the staff were involved, even if I personally wasn't involved. The staff nurses were certainly very involved."
Q "What I mean is you were involved enough in the knowledge of what was happening?"

CT1 "Yes, you always kept me very well in touch. I always felt I knew what was going on, yes."

Q "Good, well, that's what I hoped. Did you get any comments from patients?"

CT1 "Oh, the patients enjoyed it. Orthopaedic patients, on the whole, are well, and therefore anything that goes on breaks the tedium of lying in bed, so I think they thoroughly enjoyed it. I remember particularly "X", who was such an exhibitionist, bless his heart, really I mean, he thoroughly relished every minute of being used. I think it was quite a benefit to him."

Ward Sister 1 and Staff Nurse 2 also felt that taking photographs was actually of benefit to the patients:

Q "Do you think that it ever did interfere with the ward routine, taking photographs or - ?"

WS1 "In actual fact I think patients took more interest in themselves, the fact that, say, they were going on a slide, and there was that little bit more time, I suppose, explaining things to them, and they were able to listen. So it was an advantage to the patient who was participating in the procedure."

SN2 "I think the patients enjoyed being photographed."

I was pleased to hear from all three Ward Sisters that taking the photographs had not really caused too much disruption in the ward and also that they felt that I was aware of their problems and prepared to alter my plans if necessary:

WS1 "There wasn't any disruption of the ward situation, because it was a dressing that would, say, have to be done. It would have to be done, and all that remained was a photograph or slide being taken of it, really."

WS2 "It wasn't too bad really, because you fitted in so well, you know. I mean, you knew, when we were busy, that I just couldn't spare the time,
so I didn't - you know - didn't really find that it made too much difference. It was just another thing to think about, obviously, but - you know - I think it didn't work too badly."

Q "It wasn't disruptive, particularly?"

WS2 "No, no. No, I don't think so."

Q "Sometimes I physically moved beds around and disturbed things quite a bit: was that ever a problem for the ward routine?"

CT1 "Well, sometimes, yes, to be honest, when you needed time and space, it was time-consuming and space-consuming, but I don't ever have a memory of it bothering me. It was a little bit inconvenient at times because of the structure of the ward, work and things, and the fact that some of the equipment needed more space -.

(CT1 was previously Ward Sister)

Q "Well I was always very aware of this, but -"

CT1 "Well I think the fact that you were aware of it - I mean if one said, 'Look, today's a terrible day' you know, one felt forced to say, 'Could we leave it, just for now?' and I think it was a question of liaison, really, which always worked very well."

Ward Sister 1 felt that taking part in the project was a useful learning experience for all those who were involved: -

Q "But from your point of view, from the actual - that time which was really a year to 18 months, when I was coming on, taking photographs, you know, booking up to see particular patients - you never felt it upset the ward routine in any way?"

WS1 "No, in actual fact, I quite enjoy other people coming in to the ward and participating in things, because it's of interest to everybody and it's communication. I know there are certain places where people object if something's being done, you know - that - but we all learn something every day."

Q "So, would you say that, to some extent, it was a learning situation for people involved in the pictures?"
WS1 "Oh, yes. And taking part in a project, that's why, you know, I never mind the university, when they want to do their projects."

In concluding this section I should like to reinforce the comments I made in Chapter 5.2(c) when I stressed that in order to gain the co-operation of all those involved it is extremely important to plan carefully before undertaking a project of this nature in a busy ward area. Having made these plans it is necessary to be perceptive to the constantly changing ward environment and to be prepared to adapt these plans at short notice.

7(B)2 THE INDUCTION STAGE

In Chapter 6.1 I describe the three day exhibition of the learning materials in the package which was held to herald the implementation of the main project. Although this exhibition was generally well attended only a small proportion of the ward staff had been able to come owing to holidays, sickness or pressure of work. Because of this wherever possible I explained the project to staff individually after the exhibition had finished and showed them the learning materials. As the project became more established I was able to offer the qualified staff a learning package to take home. Also, as new staff came to the ward the project would be explained to them as described in Chapter 6.10.

When I interviewed the qualified staff I found that opinions varied about this stage of the Project as will be seen from the following comments:-

i) Comments from staff who attended the Exhibition

Q "Did you feel that the exhibition was enough of a sort of impetus to start it off? Do you think people got the message that it was actually beginning then?"

CT1 "Oh, yes." (CT1 was previously a Ward Sister)
Q  "Was there anything else we could have done?"

CT1 "No, the exhibition was superb, and I think everyone who saw it took their hat off to you. It was a first rate demonstration and I only hope people saw it. I can only speak for night duty, and I gathered as many people round to see it as possible, and I'm sure on days people did the same."

later

CT1 "I think possibly, even if - accepting the fact that it's a lot of hard work, it might be a good thing, if it were possible to do it again, at a later stage, because unless you've seen it at that stage, it's hard for people to remember what actually is involved."

later

CT1 "But, I was thinking that it was beneficial (the exhibition) and therefore somehow, between six months and a year, there ought to be a refresher talk, so that the people involved - since there's always a change of staff, a turnover of staff - so that people are aware of what's going on. Otherwise I think the impetus can be lost from the participation of the rest of the staff, unless they're aware of what it all entails."

Q  "Well, as I've said, now, I've started doing it more individually, but it might be something to think about, putting on another big show."

Ward Sister 2 who also came to see the exhibition agreed that it could have been repeated again:

WS2  "I think perhaps you could have done it more."

Q  "Do you mean, for a longer time, at the beginning?"

WS2  "I mean, more times -"

Q  "Oh, more times, yes? Repeated it? Repeated the actual exhibition?"

WS2  "Yes, I think so, because it was difficult for everybody to come and see it really."

However Staff Nurse 2 felt that however long the exhibition had been on there would still have been some people who did not attend.
"I think most people were aware that it goes on, because they have been shown it when they come on. I think with an exhibition, you're always going to get some people that can't come, or don't make the effort to come. If you've had it for two weeks, you still would have had people that hadn't come."

Staff Nurse 2 had been involved right through the planning stage and was in several of the photographs. However it was not until she saw the exhibition that she realised just what was going to happen.

"So you didn't feel at any stage, 'Oh, I wonder what's happening,' having been to the exhibition?"

"Well, I suppose I thought a couple of times, you know, 'I wonder what's going to happen in the end' but then, when I went to the exhibition, I could see what you'd planned."

ii) Comments from staff who did not attend the exhibition

"You were on holiday. Now did you feel - in spite of being on holiday - that you were aware that we were starting off giving this to the students? Did you feel well enough informed at that time?"

"I knew you were giving it to the students. What I didn't realise was exactly how much you actually had in here, and how much was available...."

Staff Nurse 3 was also on holiday when the exhibition was on. However, in spite of this she was aware the project was starting at that time.

"Yes, I was aware, because we all got invitations to come to the thing and I talked to you on the ward about it, I think."

Ward Sister 1 who was off sick when the exhibition was held also thought that a second exhibition would have been helpful, about a year after the first one. She saw an exhibition as a useful forum for discussion between staff.

"But you thought perhaps we could have a second exhibition?"

"Yes, yes, because it's difficult like with sick leave, holidays, days off, to incorporate everybody in seeing it."
Q "I have now got check-lists that I keep and as new people come I put down if they've seen it or what - on an individual basis -"

WS1 "But I think, when it's open to, say, an exhibition, to well, more than one, then it is a sort of discussing point between two people. Whereas, you know, you're giving it to one person - you're doing it on your own -"

Ward Sister 1 felt that one reason why staff had not been as well informed as they might have been while the project was running was due to the extreme pressure from ward work which had been exceptionally heavy that year:

Q "Do you feel generally, though, as the time went on over the year, people did feel sufficiently informed about what was happening, what the students were doing and the fact that this was in operation?"

WS1 "Yes and no."

Q "What sort of ways 'yes' and what sort of ways 'no'?"

WS1 (after a long pause) "I think there's been such pressure, over the last year, in getting as much of the work as possible in a day done, without having the time to sort of maybe have half-an-hour to say, 'Well, this is what we do for the students and this is what they've got to do - you know, this package'- just a time to sit down and all talk about, other than just the patients, you know, the persons themselves who you're working with."

Q "Do you see there could have been any way round that, that we could have -"

WS1 "No, I don't, because of the staff shortage."

In summary, the data show that the concept of holding an exhibition to herald the implementation of the project was well accepted by the qualified staff. Those who attended found the materials well presented, interesting and a good way of learning what was about to happen. The staff who were off-sick or on holiday when the exhibition was being held were aware the project was starting but until I explained it to them or they were issued with their own package they did not realise how many learning materials were available
to the students.

There was a general consensus that it would be useful to repeat the exhibition once or twice so that all the ward staff could attend and to act as a forum for discussion. However one staff nurse felt that however many times the exhibition was repeated there would still be some qualified staff who could not attend or who were not interested.

One of the ward sisters felt that the pressure of ward work during the time the project had been in operation had definitely been more acute than usual and this made it difficult to find time to discuss anything other than the immediate needs of the patients.

7(B)3 GENERAL IMPRESSIONS OF THE LEARNING PACKAGE

Apart from the two ward sisters all the trained staff had taken a learning package to use at home before I interviewed them. Ward Sister 2 had watched a lot of the tape/slide programmes on the ward with the learners and had been to the exhibition where she had seen the work books and programmed texts. Although I had shown the contents of the package to Ward Sister 1 before she was interviewed and she had looked through the work book with the learners on the ward she did not have time to take a package home with her until after our interviews, so consequently could not make any detailed comments about the contents.

The comments which the qualified staff made about the learning package will be looked at under three headings:-

i) General impressions and types of media used
ii) The Content
iii) The General Organisation
By far the majority of qualified staff who had worked through the learning package themselves made favourable comments about both the content and the various media which were used.

Q "So what did you think about the materials, then, that you used? That you had in the bag?"

SEN1 "Oh very good. I thought it was a very good way - um - I should imagine it's really good, because it is such a different speciality and I'd imagine that they'd learn quite a lot."

later

SEN1 "I mean, I do think the package, once they start getting into it, it does help them. I think that probably builds their confidence up, that they know they're actually doing the right thing and and they're being told the right things as well, for the wards."

Q "So, from your point of view of somebody who's recently come to the ward, what did you feel about all the things in the bag and -?"

SEN2 "Well, a great help and they were really very, very good and everything. I found that what were on the tapes were applicable to the ward. And, being new to the ward and not having been on Orthopaedics for such a long time and only having done nights there anyway - you know - I really learnt from them. They were really very good. I was very impressed."

later

SEN2 "I'm just sorry that I've never ever been able to have anything like it before."

SEN5 "I thought it was really good, a really good introduction, and it went into quite a bit of detail as well, with all the hips and things. I should think it's really useful when you first come on to the ward, because they're a bit lost at first."

later
SEN5 "I would have found it really useful, when I was a pupil, I know that, so, hopefully, the others find it so."

Staff Nurse 1 "I think it was very good and think it was worthwhile, if people actually sit down and do it."

Staff Nurse 2 "I think having visual aids is a help, because then they don't think, 'Oh well, I've got ten pages to read' or something. They think 'Oh well, I can look at this film' and I think they possibly learn more from looking at slides than, say, having a big book that they have to read through or pamphlets or whatever. I think they are more motivated to look at that than a book."

Staff Nurse 4 "Well it was good in a way because as I read them (articles and programmed texts) it was imprinted in my mind."

later

"I found it useful, yes."

Staff Nurse 3 was the only member of the qualified staff who was not entirely happy about the learning package:-

SN3 "I think, if I'd just come to the ward, I might find them a little frustrating - the fact that they concentrate on one area, i.e. lifting and moving, and not telling me, like, pre-op care or preparation of a patient who's going for a total hip, or what to expect for someone who comes in with a fractured tib or fib - that sort of area."

Q "So in fact, you think you'd need more?"

SN3 "Yes."

The comments the qualified staff made about the different media were very similar to those made by the learners. They liked the structure and format of the workbook/study guides and found the tape/slide programmes an easy way to learn.
Some of the Comments Made About the Work Books/Study Guide:

SN2  "I think the study guide is good, because it makes them go back over what they've done, to test themselves as they go along."

SN1  "I think that's quite good (study guide). I think it's good that they've got the book and I think it's good that it's marked - or at least looked through."

WS1  "Oh, I think the content is super, and the fact that there are, you know, diagrams and all that."

SEN3  "I thought you started it off very well, in sort of introducing the Orthopaedic Wards and all the Consultants and everybody involved, I thought that was quite important."

Some of the Comments Made About the Tape/Slide Programmes:

SEN1  "The tapes were very clear, and the slides. Very well put over, well explained."

later

SEN1  "It's much better to have slides set out, rather than just read a book and then, you know, read it off pat. It's much better to learn it from a viewing sort of point of view."

Q  "Yes, you like that aspect of it?"

SEN1  "Yes, very much - I've never been one for reading many books, so to speak, but that makes it more enjoyable, the way of learning, I would say."

Q  "Do you think it's an easy way to learn?"

SEN2  "Yes, I do - very good. Because you can actually, well, you're listening to what they're saying, and then you can actually see it as well. Yes, it's very good."

SN2  "I think the visual aids were good because you could see, you know, how to manoeuvre patients."
later

SN2 "I thought all the pictures were good and it gave continuity."

SN4 "Of course when I was a student we didn't have it, but I think it is excellent really for a student."

Q "Do you quite like that method of learning with tapes and slides?"

SN4 "Yes, I think I do yes, it makes it easy, doesn't it?"

Both Staff Nurse 1 and 3 got rather frustrated because they could not speed up the tape/slide programmes:-

SN1 "And I found - whether it was just because I really knew more about it - but a lot of the time I found the slides frustrating, because I wanted to go on, because I knew what was going to be said, but again, I did find it very good. I found - there was the arthritis one, you know. I do - I found them all good, I found them interesting."

SN3 "I got very frustrated, because I couldn't speed it up."

Q (laughing) "Yes, you wanted it a bit quicker?"

SN3 "That's right, and I'd rather have it set down and then you can pick up the bits of information that you're interested in to start with and then perhaps go back later, whereas the tape/slides you can't really sort of flick through and you can't speed the cassette through, because you don't know what else is going to be said next."

In common with a few of the learners SEN3 was rather aggravated by the mechanics of operating the tape/slide programmes:-

SEN3 "The only thing that did, I suppose it's just me being lazy, but the only thing that did get on my nerves after a while was having to keep filling up the slides all the time and taking it out and putting it all back in."
7(B)3(ii) The Content of the Learning Package

Although several of the qualified staff had been involved in the production of some of the learning materials they did not have a total concept of the content of the package until they were issued with one to study on their own. In order to get their views on the content I asked the following questions during my interview:-

a) Do you disagree with any of the content of the package?

b) Have you learnt anything new or altered your nursing practice in any way as a result of using the package?

c) Do you think any other information should be included in the learning package?

By far the majority of the qualified staff were in agreement with the content of the learning package and felt that it was an accurate description of current practice on the wards. This is demonstrated by the following comments made by the qualified staff:-

Q "Has there ever been anything (that you have seen in the package) that you felt you wouldn't put quite that way, or have you ever been in disagreement with anything in the packages?"

Ward Sister 2 "No, not that I can think of - nothing I've seen that I've listened to and disagreed with."

later

WS2 "I think I would've told you actually."

SN1 "No, I don't think so."

Q "So there was nothing that you felt you couldn't go along with in any way?"

SN1 "No, no."

SN3 "I don't think so."

SN4 "Well no, I think as they were was fine."
"No."

"You agreed with everything?"

"Yes, I thought they were very - the tapes were very clear, and the slides. Very well put over, well explained."

SENs 3, 4 and 5 were also in agreement with the above statements. All these comments correlate with the data collected from the learners which is described in Chapter 7(A).6. By far the majority of learners felt that the content of the package was relevant to the work they did on the ward.

Two of the qualified staff did point out areas where they felt that the content of the package may cause some confusion for learners, although they did not directly disagree with anything.

"Was there anything that you disagreed with, can you remember?"

"Not really. I'd just say that, you know, obviously with different consultants it would vary and, um very much so you've got to be aware of what consultants want, you know, obviously with the different hips and traction and treatment of cervical fractures, even."

Staff Nurse 2 did agree however that all the information in the package stressed general principles which would apply whichever Consultant was caring for the patient.

Enrolled Nurse 2 mentioned that although she did not disagree with the illustration which was given on one of the lifting sequences she had never seen this particular strategy used on the ward. I had in fact included it hoping that it would be adopted more often as a possible way of preventing back injuries to nurses which are so common on orthopaedic wards.

"Were there any points that were a surprise to you, as something that you hadn't been doing, or anything that you disagreed with in any way?"
SEN2 "There was one thing but - um - I think it was in the lifting, the movement of the patients: the use of the hoist at the bedside. Well, I mean, we just don't do that."

A few of the qualified staff did in fact say that they had changed their practice as a result of working through the learning package. Several others said they had gained new knowledge which had helped them to understand the rationale for their actions. Two had been reassured that the care they were giving to the patients was correct.

The following quotations illustrate these points:

Staff Nurse 3 "I wasn't terribly sure about traction, not having worked on the ward before, orthopaedics, anyway, and that was the most helpful tape, I found, because it showed that you didn't have to have the pin in the os calis s dead horizontal, it was a matter of the alignment of the leg rather than the alignment of the pins, sort of thing, which I didn't really understand, before."

Q "So, you say that's one fact that, in spite of being here six months, you did actually learn from that?"

SN3 "Mm."

Q "Are there any other points that you think were clarified for you, or -?"

SN3 "Well most of it just reassured me that what I've been doing for the last nine months has been right."

Q "Yes. Do you think staff nurses, or qualified staff generally are in need of that sort of reassurance?"

SN3 "Yes, because people so much assume that you will know and you've got to ask somebody, when you first arrive. And you're not always sure the person you ask is the right person, you know. They might have been on the ward four years, but they might have been doing it wrong for four years, for all you know. So it's nice to know what you've picked up is actually the right thing."

SEN2 "I really learned from them (the packages). They were very good. I was very impressed."

Q "So, you say you really learned from them: can you give any examples of specific things - let's say that you hadn't really realized about, before you got the tapes?"
SEN2 "Well, almost everything really. I mean, being down in Recovery, for the 18 months, it's surprising how much you do forget. Just like little things: how you're allowed to move - like - your total hip patients, how you're supposed to position their limbs and everything...."

Later

Q "Did you change what you did, as a result of anything you saw on there, actually did anything differently, because you'd seen it done?"

SEN2 "Um. Well the most I got out of it really - it's not sort of changing my nursing care, I think, but just sort of understanding everything, just sort of understanding the traction and things like that, and how to move the patient and things like that. And once I'd listened to the tapes, I could go to somebody and think, 'Ah yes, I remember that they said that in the tapes', and then I could relate to - whereas before, it was very difficult. Sometimes, in your text books, it doesn't always put down what you want to read. You can't always find out what is actually applicable to your patients on the wards. So really, from the tapes, it was just that sort of learning that I got, you know."

Q "Would you say for example, the one where it told you about the blood supply: was that new to you?"

SEN1 "Yes, that was new. Because the actual sort of the Charnley's and the total hips, sort of how you manoeuvre them in bed and get them up with the frames and things - that I'd picked up, but the actual about the blood supply and the anatomy of it and the physiology of the bones - that I don't know. So that was very helpful."

Q "So the reasons, perhaps, why some of the things were done?"

SEN1 "Yes."

Q "Do you think there's anything at all you saw that you hadn't come across, or that you'd learnt anything new from it all?"

SN4 "Well, one of the articles on the external fixators, I was able to read that up and understand it a bit more than what I'd picked up in a way, because you don't see many of them."
SEN5 had had a lot of experience in orthopaedic nursing in another hospital but in spite of this she found the learning package helpful.

Q "So would you say the actual things you saw in the bag changed your practice or added to your information?"

SEN5 "Added, added to your amount of knowledge, and you need to know what's done here, really, because - well, for teaching, really. There's no point in knowing what they did elsewhere, you've got to know what they're doing here."

Considering the short time the learners, particularly the student nurses, were allocated to the ward it was generally agreed by the qualified staff that the content of the package was sufficient and that the most common topics were included.

SN1 "I think you've picked out the most common things, which are the things that are going to be seen most and I think you've covered most of it, really. I mean, you can't cover everything."

Q "Is there anything that occurred to you that we didn't include that we could have put information about? Common things that happen?"

SEN5 "No, not really, because you covered dislocation and things like that."

Q "You'd feel, for a student who had no experience, that would be sufficient?"

SEN5 "That would be just about right."

Q "For the time they have?"

SEN5 "Yes, because four weeks isn't very long."

WS2 "I wouldn't think that you could expect them to cope with any more."

There were however several suggestions made about other topics which it would be helpful to include. It was felt that additional information could be kept centrally for those who felt they needed it, even if it weren't included in each individual package.
The following are examples of the topics which were suggested:-

WS2 and SN2 "Care of patients in plasters and splints including cast braces."

WS2 and SN2 "Care of the elderly orthopaedic patients including their emotional and social needs."

7(B)3(iii) The General Organisation Involved in Running the Project.

I also wanted to find out if the qualified staff felt they would like or were able to help with the running of the project if the teachers were away for any reason.

In order to elicit this information I asked the following questions in my interview:-

1) "Do you feel removing learners from the ward for half an hour or so to do tests and collect materials has ever interfered with the ward routine or caused any disruption in any way?"

2) "Do you think the ward staff either should or could be more involved in the organisation and care of the learning package?"

There was general agreement throughout the qualified staff that removing the students for short periods had not caused any real disruption to the ward routine. They all appeared to be happy with the working relationship between ward and school staff.

Q "But you've never felt it's caused an upheaval in any way, having to remove the student to do the test or give them information?"

WS1 "Well, no, because it hasn't been for all that length of time and it's been fitted in when best for the patients, so they're not, er, staff hasn't been depleted and so the patients haven't been affected."
WS2  "I've never minded it. As I say I think a lot of it is again down to you and CT2 and the relationship we have and the fact that you don't mind me saying, 'I'm sorry, we're too busy, I can't spare her', which I have to do occasionally. But I always will try and spare - I think it's very important."

SN2  "No, I don't think so. I always normally say 'yes' and they (the learners) go. I mean it's not that long, is it - half an hour?"

SN3  "No, because you only take them when they're free to go, really."

SEN5  "They're here to learn, aren't they? We only have a couple at a time, don't we?"

Q  "That's right. So it's never caused any upsets, as far as you're concerned?"

SEN5  "No."

Q  "We always choose our times very carefully."

SEN5  "That's right, yes, I mean, they're here to learn."

Some of the qualified staff said they would be prepared to help with the organisation of the project for short periods if the teaching staff were away. However none of them felt they would have the time to help on a regular basis:

Q  "Do you think the ward staff either should, or could be more involved in the organisation and care of the materials - you know, the actual collecting and issuing them out?"

WS2  "I wouldn't like them to be really."

Q  "No?"

WS2  "I'd be a bit worried about the - I think they might get forgotten."

WS2 said later that she felt the ward staff could help in an emergency but that the task should be delegated to specific people to avoid confusion.
WS2 "I think just to limit it perhaps to myself and SN2."

Q "Yes, so as to have specific people."

WS2 "That's right, because if you just left it to the trained staff, there's rather a lot of them and - you know, you'd lose contact a little bit, I think."

WS1 agreed with WS2 that if help ever were given by the permanent staff it should be the specific responsibility of one person:

WS1 "I think we could probably - maybe give that to the junior staff nurse."

Q "The junior staff nurse?"

WS1 "Yes, more than the senior, because when I'm off the senior staff nurse is looking after the ward..."

SN2 "I think it would, again, it would be a question of what was happening on the ward, I think. I don't think we'd mind doing it, it's just a case that somebody might get missed if we were busy, that's all."

SEN5 "I don't think there'd be the time (to be more involved with organising the project). I'm sure that we'd like to be, but I don't think there's the time. You know, it's busy."

SEN3 felt quite strongly that the teaching staff and the ward staff should work together more in every respect including the organisation of the training programme for the students.

SEN3 "I think really that (working with the teachers) should go on a lot more than it is at the moment, because at the moment, we seem to be two separate, do you know what I mean, sort of, you're there and we're here and I think we could work together a bit more..."

In summary, the data show that the qualified staff on both the orthopaedic wards were happy with the general organisational methods which were employed to operate the project. None of them found that the ward routine was
disrupted in any way when the learners were removed for short periods to do tests or to issue or collect the package. Many staff stressed that the reason for this smooth organisation was due to the good working relationships which had been built up between the ward and the school staff and the fact that requests were not made to remove learners when the wards were busy.

Most of the qualified staff said that they would be happy to help with the organisation of the package in an emergency if the teaching staff were off sick or away. However they all felt that the pressures of ward work would make this impossible on a regular basis and that during busy periods the educational needs of the learners were likely to be forgotten. Both the ward sisters felt that if the ward staff did help with the organisation of the project the task should be allocated to specific people in order to get continuity.

7(B)4 THE EFFECT OF THE LEARNING PACKAGE ON THE TEACHING ROLE OF THE QUALIFIED NURSING STAFF

In light of the studies described in Chapter 2.2 b(iii) which examine the teaching role of the Ward Sister (Bryant (1985), Farnish (1985) and Lathlean (1982)) it seemed particularly important to establish what effect, if any, the introduction of individualised learning materials to the clinical areas had on the teaching roles of both the Ward Sister and other members of the qualified nursing staff. I had already established in my own study (see Chapter 4.5) that before the introduction of the learning package the qualified nurses worried that they did not have time to give the learners the teaching and support which they felt they needed due to the general pressure of the ward work.
During my final interviews with the qualified staff I asked them all:-

"Has the introduction of the learning package changed your teaching role in any way?"

Several definite categories emerged from the answers which were given.

The most common change which was mentioned by all grades of qualified staff was that their teaching role had become easier and that the presence of the learning package had helped them in a variety of ways.

Ward Sister 2 found that the content of the learning package helped her to teach at the correct level and its use made it easier for her to establish a rapport with the learners when they first arrived on the ward.

Q "Has it (introduction of the learning package) changed your teaching role?"

WS1 "It's helped me tremendously, really. I always found it difficult to know where to start. I always used to try and see the girls and just go through a few of the basic things of orthopaedics - the neck of femurs and shaft of femurs, basically, because I think they were the things they would see most of - but um - I've never really had a lot of experience of teaching and I used to find it - I should think sometimes I went way over their heads - really - for their first day on the ward. And this perhaps stops me, because the films I think are at the right level for them, when they come, those particular ones I mentioned, and it stops me from going too far but it also allows me - I do try and sit and watch with them, and be available to talk to them about it. So it helps me to talk to them and for them to get to know me a bit. I think it's helped me quite a lot."

Staff Nurses 1 and 2 and Enrolled Nurses 4 and 5 found their teaching role was easier as the package formed a basis on which they could plan their own teaching. The fact that they didn't have to start from the beginning every time with each new student was helpful and some of them mentioned that the learners asked more questions and were more forthcoming since they had had the learning package.
"If I can just go back again to this - I've really asked you, but the differences between your teaching role since we've had the learning package on the ward: you'd say, really, it was easier?"

"Yes, definitely."

"Do you think you actually, over all, do any less, or any more or about the same as you did before?"

"I think I probably do the same, but it's made it easier, as well, because they have a basis of what they're supposed to learn and what I teach them is always relevant to the basic - which is what's shown on the slides - so they have - I mean, it's not as though they don't know where the fractured neck of femur is or, you know, fractured shaft of femur. They know the terminology, to start with."

"Yes, so you're not starting from the beginning-"

"That's right."

"It's more discussing it, rather than saying, 'Now, this is A and this is B and this is C'. They have got the basis and I tell them the little extras, or I make them work it out for themselves."

"So would you say it's more of a two-way thing?"

"Yes, yes, yes. At least you get some sort of feedback from them, whereas before - I mean, sometimes you don't, it just depends on the person, but yes, it is more two-way. And they're far more forthcoming, now, than they were before."

"Can you enlarge on that, at all?"

"Well, before, you used to find, if you didn't have time to have the normal teaching sessions, they wouldn't ask you actually on the ward. You would still be teaching them on the ward as you went along, but they didn't have the basic knowledge there to start with, so even though you were doing - you were teaching, as I'm doing now - I mean, I haven't really changed that much in my way of teaching - they still would say, 'Well, I haven't had any teaching on the ward,' whereas now, I still do the same, I still teach them when I'm working with them - but now they sort of say, there isn't - their way of thinking has changed as well, really, because they don't feel that
there has to be an hour to sit down, they are taught that learning comes from doing, basically, and I mean all this sort of thing, learning for themselves."

later

SN1 "....Whereas before they'd wait for you to ask them, now they ask you. It's much better."

Q "Several people have said that, you see, so that's really interesting to me, because that's what it's meant to do. This type of learning is meant to do that."

SN1 "Yes, I mean, before, they never said a word, you know. If you told them to do something, then they would do it, but they wouldn't ask why. Now they are asking why, 'Why do we do this?', 'Why do we position the pillows as we do?', 'Why do we have sandbags in?' ."

Q "That's good. That's how it's meant to work!"

later

Q "If you had to, say, choose between your teaching role being easier, more difficult or hasn't changed, what would you go for there?"

SN2 "Well, it's easier, because it (the learning package) supplements what I can do, and I know that I can get hold of a group of information, you know, a set topic, and I've seen it and I know what it's going to say on there. And, you know, I know that they've (the students) seen that, and I know what they've seen, and then I can go over it, and bring out questions from that."

SEN4 "With the package I feel I don't have to explain things in such detail. Beforehand you had to start from scratch every time."

Both the Ward Sisters and one of the senior staff nurses stressed that the presence of the learning package had made them feel less worried that the learners were not being taught anything whilst they were on the ward. It had removed the constant pressure that they felt when they did not have time to teach and made them feel less guilty.
WS2 "I feel as if we did so little (before the introduction of the learning package) - I mean, we probably taught quite a lot at the bedside and I think we continue to do that. But they get more now, in the fact that they don't necessarily need to have a trained member of staff around to learn. That there are these aids, you know."

later

Q "And do you feel more relaxed about it, because you know that they've got that there? That you don't feel so worried-"

WS2 (simultaneously) "Oh yes, yes I do. Because it's something that always used to worry me. Four weeks is - as you know, I've felt all the way along - is a ridiculous amount of time and I always felt that they went away not knowing enough, or, you know, that I hadn't cared -. Well, I felt as if I hadn't cared enough about them, but now, you know, I do feel that this equipment's there and I mean it's ideal, they can - it's up to them really. You can't do any more, I don't think you can do any more than what we're doing."

WS1 "I don't have the same guilt that they're not being taught - having got it."

SN1 "....I think the majority of teaching now - learning, now, is done by them, and I think there are less complaints, now about - in fact there are virtually none, about 'Well they don't teach you anything on X ward'."

Q "No, that's right. So what sort of difference has that made to you?"

SN1 "Well, in a way, it's helped, because the pressure isn't there. I think the teaching is done as the work is being done, and therefore time isn't taken away, just for an hour or two's teaching session. So I think it's better."

Several of the Enrolled Nurses said that since they had worked through the Learning Package themselves they felt more confident to teach the learners as the information they had gained had confirmed that their own knowledge was correct and helped to clarify the rationale for their actions.
Q "Would you say that working through the learning package has had any effect on your confidence, even after working on the wards for seven months?"

SEN1 "Yes, because (laughing) you're only told from sort of other members of staff what you do, nothing's actually laid down that you do it this way, this way, you know. And I think to see it actually being done on the slides, and to know you're doing it right! And you know the reasons for doing it. Then, yes, you feel more confident that you're actually teaching the students the right way, as well."

Q "Has it changed at all how you feel about teaching the students?"

SEN2 "Well, I can feel a bit more confident. I mean, I can feel that what I am saying, I believe it is true and I can teach them the right way, whereas before, if somebody had asked me something and I'd have to say, 'Oh, I'm sorry', you know 'I'll find out from the staff nurse' or, 'I'll go and find out myself, because I really can't tell you here and now', which sometimes - I mean, I think, if you're with a student nurse and you're actually working with a patient, you need to teach there and then, rather than go away, because if you get away from it, then often either one of you forgets and - it never gets picked up again. So I mean, from that point of view, that I can actually teach a student over a patient, rather than having to go away and just forget about it."

SEN3 "...you don't realise how much you do know about it until you look at something like that (the learning package) and you think 'Well I do know quite a lot really'."

When Ward Sister 2 was summing up the reasons why she found the learning package a help as regards her role as a teacher she also mentioned that she used it to obtain and check information.

Q "Can we go back again over why it was helpful?"

WS2 "It was helpful, 1) because I can easily obtain information myself that I'm not sure about or want to check on for my own teaching purposes,
and because the teaching time - my time is so valuable. I'm always so busy that it's such a help to have it there for teaching the students. And I really do feel that they are learning more.

To summarize it was generally agreed by the qualified nursing staff who worked on the orthopaedic wards that since the introduction of the learning package their own role as a teacher had become easier in a variety of ways.

The most common reason which was given was the fact that the learning package formed a basis for their own teaching. There was not the same need to start from the beginning with each student as they had to do before the package was introduced. The learners understood the rudiments of orthopaedics from studying the package and were more conversant with its specific terminology. Because of this the qualified staff found that they asked more questions and were generally more forthcoming than before. The method of teaching and learning had become more of a two way process and students seemed happier to learn at the bedside as they worked and did not express the desire to be taught in a group as they had done before.

One ward sister found that the learning package had helped her tremendously with the level of her teaching which she felt had previously been too high-powered for basic learners. The insight which the learners gained from the package also helped her to establish a rapport with them more quickly than she was able to do before.

Some of the more senior staff said that the introduction of the package had removed a lot of the guilt which they felt before when they were unable to spare the time to teach the students in groups. They did not however feel that they now gave any less time to teaching but just that they used the time they had in a different way.
Several of the Enrolled Nurses had found that working through the learning package themselves had given them more confidence to teach as it confirmed that the care they were giving was accepted practice and that they had gained a greater understanding of the reasons for their actions. They were consequently happier to pass on their knowledge to the learners. One of the Ward Sisters also said that she used the learning package to obtain and check information for her own teaching purposes.

7(B)5 THE USE OF THE LEARNING PACKAGE FOR IN-SERVICE EDUCATION OF THE QUALIFIED STAFF

Chapter 2.3(a) describes a variety of distance (open) learning courses which are currently being operated in the United Kingdom in response to a generally recognised need in the nursing profession for better provision of in-service and continuing education (Bond (1984), Robinson (1984), Johnson (1985)). The learning materials for these courses and several others which are described in Chapter 2.3(a) were designed with the particular needs of the qualified nurse in mind.

Although the materials in my project were designed for the basic learner (student and pupil nurses) who had no previous experience in orthopaedic nursing, it seemed likely that they would also be a useful source of information for qualified staff, particularly those who had recently completed their training and were newly appointed to the ward.

My interviews with the qualified staff showed definite evidence of the need for in-service education for newly appointed qualified staff, particularly the Enrolled Nurses:
SEN3 "I remember when I first started it was terrible, especially as I was on nights, you just don't know a thing, and everybody's different, how you lift patients or roll them, I mean you've got to know a basic knowledge really before you can start on it. I think just more for your benefit, it's more for reassurance, but it does frighten a lot of people, starting on orthopaedics when they don't know...."

Q "Even trained people?"

SEN3 "Oh yes, especially trained people I think, because they're more, they're expected to know it all really."

Q "Would you say that when you're first qualified it's as difficult as when you first started your training, in some ways?"

SEN1 "Oh yes, as difficult, if not more difficult, possibly, sometimes."

Q "Mnn."

SEN1 "Because I think people expect you to know it, as soon as you go on - not as much the other staff but the patients expect you to know exactly what's going on and when it's going on even if you've only been there sort of a couple of days! And you have to give the impression that you know what you're talking about, so it's better to actually know it, rather than bluffing your way through!"

SN2 "Most of them (Enrolled Nurses) are lost, really, because if they've only done orthopaedics in their training for the 4-8 weeks, whatever they do, you know, they come to orthopaedics and they're expected to know, and they're going to be with the students, as well, you know, they've got to teach them."

Ward Sister 2 also showed concern for the Enrolled Nurses who were newly appointed to the ward. However she had found that those who had been issued with a learning package were more confident in their work and were more likely to ask questions.
Q "Have any of the trained staff, say, that have had the package ever mentioned to you that it would be nice if that could be routine, or have they, those that have had it, talked much about it?"

WS2 "Yes, they have, um, they've never said, you know, it would be nice to be routine and I've never suggested to them, actually, that they take a package, but they have been quite interested in it and I think found it quite helpful. Again, a similar reaction to the students' in the fact that they are more confident and they will ask again, it's, yes - two of them I'm thinking of in particular, it's exactly the same as the students. They start on the ward and they probably don't know very much about orthopaedics and again, we don't have a lot of time for teaching. It's something that still concerns me, is when new members of staff come that it really is very unfair just to expect them to cope. And I just found that they were more, again, more confident and that they weren't so frightened to ask things."

Q "They, on the whole, are the people who have had the package?"

WS2 "Yes,"

Q "Now, were these SENs or SRNs?"

WS2 "SENs."

All the qualified staff agreed that it would be useful if it became routine to issue the learning package to newly appointed staff.

Q "Do you think it would be useful if we made it routine to offer the learning materials to all the new staff when they came to the ward?"

WS1 "Oh I think so. And they're all eager to learn because it's a new subject to them."

SN2 "Yes, I do, yes, because a lot of the enrolled nurses especially, are quite keen, because they don't know and obviously they've got to know what they're doing, because they're with the patients all the time. I think most of them are very willing to learn that I've met so far on the wards. I think that's a very good idea actually."
SN3 "It might be an idea if all new staff nurses could have that package, really, to start with."

Several of the qualified nurses felt it would be better to wait four to six weeks before issuing new staff with the learning package in order to give them time to settle into the ward routine.

Q "Do you think that all the new staff should be offered the package when they first come to the ward, sort of near the beginning?"

SN1 "I think it was an idea to actually give them time to actually settle into the ward, but I think probably after a month or, you know, a couple of months, I think then they should be given it."

Q "Yes, so not straight-away?"

SN1 "Not immediately, I think, because it's a lot to start with, if somebody's coming from a new place, I think it is quite a lot, actually, just to move. I think once they're actually settled down and, you know, got to know the ward routine, and then, maybe, after 6 weeks."

SN4 "I think maybe after say a month to six weeks."

Q "Several people have said that. Why do you say that?"

SN4 "Well from my point of view, maybe I'm a bit slower than some being a bit older, but I find it takes me nearly a month to sort of settle in and find my feet and that sort of thing, and at the beginning I suppose I'm just a bit nervous. Actually if you start reading straight-away it all becomes a bit much, but if you actually do it in practice and then read about it as well, because you know, we're usually sort of fairly supervised at the beginning, it's just when people ask you things and you're new and you feel a bit silly. I think after about a month would be best."

None of the qualified staff felt that the level of the information in the learning package was too basic for them. Even if they had studied the subject in some detail before they felt it acted as a refresher course.
"I mean, I've been doing orthopaedics for three years, and I still learned things from them (the contents of the learning package) and I wouldn't feel insulted if somebody gave them to me to learn. Also it's always nice to have what you do know confirmed, anyway."

---

Q "Was there anything in it that you feel wasn't of use, say, to trained staff?"

SN3 "No, I think all of it was, it just reaffirmed what you'd been doing and it was nice to have reassurance, really. There wasn't really anything that was too basic."

---

SEN1 "I don't think you would have to alter it a very great amount, if at all, actually, to suit qualified staff, when they first come on."

---

SEN2 "I think, I mean, it's always good, even if it's just like a refresher, you know, just a refresher course. It just sort of jolts the old memory!"

In summary, the data confirm that the orthopaedic learning package which was produced for basic learners was a useful source of information and in-service education for qualified nursing staff, particularly when they were first appointed to the ward.

A definite need was expressed for this type of basic knowledge for new staff, particularly for the Enrolled Nurses, many of whom had felt ill-prepared for their new role.

It was generally agreed by all grades of qualified staff that it would be beneficial if the learning package could be issued routinely to all new staff. It was felt preferable to wait a month to six weeks before the package was issued in order to give new staff the opportunity to settle into the ward routine.

None of the qualified staff had found the information in the learning package too basic and it was agreed that the
level was appropriate for new staff. Even if they had studied the subject in some depth before, it was felt that the Learning Package would act as a good refresher and that it was reassuring to have previous knowledge confirmed.

It had been observed by one of the Ward Sisters that new staff who had been issued with the Learning Package seemed more confident in their work and were more likely to ask questions. This was the same reaction which she had observed in the students who had taken part in the project.
7(C) THE PERSPECTIVE OF THE TEACHERS

Introduction

Apart from myself there were only four other teachers attached to the orthopaedic wards during the period the project was running. There was one Nurse Tutor and three Clinical Teachers.

Clinical Teacher 1 had been a Ward Sister on one of the wards during the time the tape/slide programmes were being produced and had become a Clinical Teacher on night duty by the time the main project was implemented.

Clinical Teacher 2 came to the orthopaedic wards as Clinical Teacher for the student nurses the same week that we held the exhibition to herald the implementation of the main project. She became increasingly involved with its organisation during the first year it was in operation. After eight to nine months when I discontinued with the administration of the project, Clinical Teacher 2 became solely responsible for its day-to-day running.

Clinical Teacher 3 helped me a great deal with the production of the materials which were used in the learning package and was in a lot of the photographs which were used for the tape/slide programmes. She was away from the ward when the main project was implemented but returned as Clinical Teacher for the University Students after it had been in operation for about nine months. Although she did not help directly with the administration of the learning materials she was teaching students who had been allocated with a learning package.

Nurse Tutor 2 had been responsible for the Trauma Unit as a whole since January 1983. As well as clinical liaison this included the planning and organisation of the study blocks which preceded and concluded the learners' clinical experiences in the four areas used in the Unit (Accident Centre, Theatres, Intensive Care Unit and the Orthopaedic Wards). However as NT2 had a long period of sick leave he was away for
the first six months that the project was in full operation. On his return he visited the orthopaedic wards frequently and when CT2 was away he would help with the administration of the learning package.

My interviews with these teachers were spread over a period of ten months depending when they were attached to the wards. The following list gives details of when they were interviewed in relation to other data collection.

<table>
<thead>
<tr>
<th>Date</th>
<th>Event Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>September 1983</td>
<td>Implementation of the main project. Data collection from student and pupil nurses commenced</td>
</tr>
<tr>
<td>February 1984</td>
<td>Interview CT1</td>
</tr>
<tr>
<td></td>
<td>Data collection from student and pupil nurses commenced</td>
</tr>
<tr>
<td>June 1984</td>
<td>Interview CT1</td>
</tr>
<tr>
<td></td>
<td>Data collection from student and pupil nurses completed</td>
</tr>
<tr>
<td>July 1984</td>
<td>Interviews with the permanent ward staff. Long term tests on the student and pupil nurses</td>
</tr>
<tr>
<td>July-September 1984</td>
<td>Administration of the project taken over completely by CT2</td>
</tr>
<tr>
<td>September 1984</td>
<td>Interview CT3 and NT1</td>
</tr>
<tr>
<td>December 1984</td>
<td>Second interview with CT2</td>
</tr>
<tr>
<td>August 1985</td>
<td></td>
</tr>
</tbody>
</table>

As CT2 was, apart from myself, the teacher who was most involved with the administration of the project I interviewed her twice. The first time was after the project had been running just over six months. This was before I relinquished the administration and while I was still collecting data from the student and pupil nurses. The second interview was almost two years after the project had been implemented, when CT2 had been carrying out the administration on her own for almost a year.

I have already included in other sections several of the comments made by the teachers during these interviews. These were mainly in relation to the way the student and pupil nurses felt about the learning package (see chapter 7(A)2) and the
effects the package had on the learners study patterns (see chapter 7(A)3).

In this section of the chapter I propose to concentrate on the comments the teachers made relating to their own perspective of the project particularly as it concerns their teaching role.

All the teachers whom I interviewed had found that their role had changed in some way since the learning package was introduced.

These changes had occurred in two main areas. Firstly the teachers found that the use of the package by the learners had either replaced, supplemented, supported or given more structure to their teaching. Secondly, and this applied mostly to CT2, the organisation and administration of the package altered the way in which they used their time.

7(C)1. THE CHANGING ROLE OF THE TEACHER

i) In relation to their teaching

Clinical Teacher 1 who was the only teacher in the hospital on night duty found that the teaching which she would normally do on the orthopaedic wards could be replaced by the learning package.

Q "Now, thinking of your teaching role, when you were on night duty, the fact that the pupils were using these materials and that you knew they were using them, what sort of effect did that have on your role as a clinical teacher?"

CT1 "Since my time was very short, I was covering the entire hospital as the only clinical teacher at night, I found it took a load off my shoulders, because I had been doing a lot of orthopaedic teaching before then, going through all the various fractures. And I think, to be truthful, I've stopped, apart from keeping a motherly eye on them, I let them get on with it, with that, and concentrated more on the medical floors."

Q "Yes, so did you think you made a conscious decision to do that?"
CT1 "Oh, yes."

Q "Yes, to actually change your role?"

CT1 "Yes, because there was no point, since I was needed throughout the hospital, there was no point in trying to double up on what was already being put in, as far as I could see, perfectly adequately."

Q "Yes, so you felt, in fact, that what was in the package covered the sorts of things you would've done anyway?"

CT1 "Yes, yes, probably not entirely the same way, because you put sort of a slightly personal approach to it and you look at Mrs Jones and you look at Mrs Jones' X-rays and you discuss the benefits of traction and things, so it's obviously different. But, given the fact that there was no way, being part-time, I could cover everything adequately, I felt at least the orthopaedic floors were being covered by your package, and I let that be."

Clinical Teacher 3, who at the time of the interview was responsible for the University Students, found that the learning package had given the students a better knowledge base on which to build her teaching.

Q "So now that you know the programme and now you're teaching again, do you think it's made any difference to your role or as to how you go about your work?"

CT3 "Yes, I think I can assume a certain amount of knowledge from students at a certain time and so that you can perhaps carry on to a slightly higher plane, to expect the student to tell you more rather than it being a one way thing."

Similar comments to this were made by Staff Nurses 1 and 2 and Enrolled Nurses 4 and 5 when they were discussing changes in their teaching role (see Chapter 7(B)):4).

Nurse Tutor 2 who was responsible for organising the week the learners were in study block prior to their allocation to the orthopaedic wards, felt more supported knowing that the learning package would guarantee further information being available in the clinical areas.
"So, just from your point of view as the tutor, what effect, if any, do you think the introduction of the project has had on your role, as a Tutor?"

"It has affected me because I think I feel almost myself more supported knowing that there is going to be something along the package lines that the nurses are going to take part in, and so I've been able to adjust my actual input more, because I know that this isn't going to be 'the be all and end all' of it. I know they're going to be guaranteed that they're going to have the possibility of them being able to do various bits of work while they're actually in the areas."

Clinical Teacher 2, who at the time of her first interview was relatively new to teaching had learnt quite a lot from the package and had found it useful revision. She also found that she was able to relate to the package when she was teaching making it a teaching aid as well as a learning aid. She felt that the introduction of the learning package gave more structure to her teaching.

"Do you think you learned anything from using the package having come to an area that you weren't really a specialist in?"

"Yes, I certainly did learn from it."

"What sorts of things? I mean even at your level, what sorts of things do you think it might offer even to, say, a new teacher coming to an area they didn't know?"

"I suppose, if they hadn't done much specialised, much in orthopaedics before, just the basis even. The Stryker Turning Bed was something that really struck home to me, I think, because I'd not come across it before."

"Was there anything else, I mean, however meagre, that you might think actually helped you?"

"Yes, yes. It was certainly helpful to me revision-wise, the tape/slide programmes, again, particularly revision-wise. I think, for me, visual has quite a bit of impact, and to see these things helps a lot. So revision, it certainly helped with that, different treatments, and obviously it helped to up-date me as well, because things have changed since I've done any orthopaedic nursing."
earlier in the same interview

Q "Has the project interfered at all with your work as a clinical teacher?"

CT2 "Um, I wouldn't say 'interfered'. It's probably helped me a lot, because I can relate to the package, and I do. I check with the students, obviously, to make sure how they're getting on with it and if they've got any problems, but equally, if they do, I use that problem and we try and work it round. Or we try and relate, if we're working with a patient, we try and relate it, again, to the package. So it's useful from my point of view."

later

CT2 "I think, as I've become more involved in it, since I've actually looked and worked through a package myself, obviously, and then become more involved in handing it out and collecting it in, and doing some work throughout, making sure they're alright. I don't know. I just see it now as something that could work both ways. It's not just a student-centred thing, it's something that can be worked, you know, I don't mean a student-centred-

Q "Can you enlarge on that - the 'both ways' bit?"

CT2 "It's something that - how can I put it? I'm trying to think back on it again. To actually have the package there, that the students are using, but that I can make use of it as a teaching aid, as well as them making use of it as a learning aid."

later

Q "You said to me the other day that your work was quite different, because of the project, quite different to the other clinical teachers, so building on what we've just said about this two-way business, would that fit in to how it is different?"

CT2 "Yes."

Q "In what sort of way?"

CT2 "Obviously, I've now got a lot more in the way of resources and aids, over and above what I've produced, that I can actually fall back on and use: that my students, with whom I'm working on orthopaedic wards, are directed in an area, whereas the students on the other wards aren't - they don't have the directive to go to."
"How then does that affect your day-to-day work, the fact that the students have a focal point, so to speak? Would you agree, it could be quite a focal point?"

"Oh, yes, definitely."

"How, then, would it, say in the use of your time, or in any way do you think it changes the way you work?"

"Um." (long pause)

"Well, comparing, perhaps, did you have a short time on "X" Ward, was it?"

"Only a very short time. It makes it more structured for me. When I was working on "X" Ward, it was very, I felt, hit and miss, so to speak, because it was an area I'd not worked on for a long time, like orthopaedics, really. But, with the package, it makes it a lot more structured for me, if you see what I mean."

"Yes. By 'making it more structured', do you mean the way you approach it, or the way you're teaching it - what do you mean by 'making it more structured'?"

"Mm, I think it makes my teaching more structured, it gives me something more structured to work to. It helps me more in my routine, I suppose, working out my own programme."

"Yes. Now, are you happy with that structure or would you ever feel that you might be happier without it?"

"No, I like structure (laughing), sorry!"

"Never mind about that. Don't apologise!"

"I'm afraid I've got to have guidelines, I suppose, to work to, I think. Er - I think it's particularly important as I'm still relatively new to teaching, really, so I think it is important to have guidelines there to work to. And that certainly helps - having the structure there."

In her second interview about a year later Clinical Teacher 2 made some similar comments. She added that she felt much happier working with the package now that she was totally responsible for its organisation.
Q "How does the organisation of the package fit into your work now? In any way you want to say, advantages, disadvantages, problems?"

CT2 "It obviously, advantageously, it gives me a more definite choice of subject that I can go out and do tutorials on if I think it is necessary. I try obviously, I don't include the subjects that are included in the package so then I know I can forget those and go off and do what I want to. Also of course it has got the added advantage that if the student has got questions on things that I feel relate to the package, that I can direct them to where they can find it in the package and the incentive being there for them to go and find it and I feel they retain it better rather than me just standing there and telling them."

Q "This is similar to what you said before. Do you feel that now you are responsible for the package has made any difference to those things or is it really the same?"

CT2 "It has made me a lot more, um, positive and a lot more sure when I'm actually using it, because I know I am now responsible for it, I feel much easier working with it."

Q "Yes, by 'more sure', can you enlarge on that, 'more sure' of what?"

CT2 "Um, I suppose more sure of myself in using the package, um you know I suppose being more responsible for it I don't feel now a little bit wary of it, like perhaps I did initially, I'm happier working with it."

In her first interview CT2 had mentioned that when she first came to the ward she was rather wary of getting too involved with the project.

Q "What effect do you think the running of the project has had on your role as a clinical teacher?"

CT2 "You mean my actually running it or you running it?"

Q "No, the fact that it's being run - what effect has it had on your role?"

CT2 "Yes, the effect has changed me as I've become more involved with it, but I think, to begin with, it wasn't until I'd actually sat and looked at it, or looked at part of it, originally, here, that I
started realizing what was involved in the package. And then, O.K., I'd seen it on display and had a rough idea, up till I actually started looking at it, I think I avoided those areas that I knew were in it."

Q "Was that difficult for you then? Did the fact that you avoided it, avoided those areas, did that put any constraints on you, do you think?"

CT2 "I think it did, yes. Because I was aware all the time that I mustn't get too involved in that because they'd got to learn from the package and I mustn't influence it."

However when summing up the changes to her teaching role in her second interview Clinical Teacher 2 stressed that she had by then completely lost these initial feelings of constraint and that particularly as regards the structure of her teaching the presence of the learning package had proved a great help.

Q "What has been the main advantage to you in your role as a clinical teacher in being totally involved?"

CT2 "It has helped me to structure my teaching more effectively, I can now, I have now got more confidence in directing learners to look things up themselves. It has certainly been a great help as far as the structure goes."

In summary, all four teachers who were attached to the orthopaedic wards after the project had been introduced found that their teaching role had changed in some way. Although there were a few common areas of change they tended to be specific to each teacher as an individual.

As the content of the learning package covered the majority of subjects which Clinical Teacher 1 normally taught on the orthopaedic wards she decided to stop her teaching sessions there and concentrate her efforts elsewhere. She was the only teacher on night duty and felt this was the most obvious change to make after the learning package was introduced. She did however continue to visit the pupil nurses on orthopaedics to give any help and support which they needed.
As the learning package gave the students a better basic knowledge, Clinical Teacher 3 found that she could pitch her teaching at a slightly higher level. She also found that her method of teaching was less didactic as the students were likely to be more forthcoming with their comments and generally less passive.

Knowing that the learners were guaranteed further information on orthopaedic nursing from the package when they were on the wards Nurse Tutor 2 felt this was a great support to him when planning and organising the weeks study block at the beginning of the Trauma Unit. He had therefore been able to adjust the content of the block and make it less concentrated.

Although Clinical Teacher 2 felt that when she first came on the wards as a new teacher the presence of the learning package had inhibited her slightly as she did not want to influence its effect in any way, she soon realised that she herself could learn from the package and use it in order to revise her knowledge of orthopaedics. As she became more involved with the overall organisation of the project and more familiar with the contents of the package she found that she was able to turn them to her own advantage. Her own teaching programme became more structured as she designed her sessions to supplement and complement the contents of the package. She became increasingly able to relate to the package while she was teaching in the clinical situation and felt that it served her as a teaching aid as well as being a learning aid for the student. She was aware that the added resources and learning aids which were available to her students gave them a very specific directive which made her work different from the Clinical Teachers on the other wards as they did not have such a definite framework in which to operate. As Clinical Teacher 2 became more responsible for organising the project she felt increasingly more confident in directing learners to be more self sufficient and responsible for their own learning.
THE CHANGING ROLE OF THE TEACHER

In relation to the organisation and administration of the learning package

Chapter Six describes in detail how I organised and administered the main project. The following is a summary of the stages involved:

* Liaise with the Ward Staff to arrange a suitable time for the learner to be released from ward duties.

* Administer and mark the Pre-Test.

* Issue the learner with a workbook/study guide, a learning package and a key (to obtain central materials).

* Return the Pre-Test to the learner and discuss any problem areas in relation to the learning package.

* Visit the learner on the ward to ascertain their progress and answer queries/discuss points relating to the learning package.

* Administer and mark the Pre-Test during the last few days of the learners' ward allocation. Discuss the result and advise on further study if necessary.

* Collect the learning package and check the contents ready for allocation to the next group of learners.

* Collect and mark the work books from the learners who have completed their allocation.

During the first year of the project Clinical Teacher 2 became gradually more involved with this process and eventually took it over completely. In her first interview I asked:

Q "How do you find issuing the materials and the keys, you've done it once or twice now, how do you find that part of your role? I mean that's very different. It's a care-taking job, really. Have you any feelings about doing that every month?"

CT2 "No, no, I don't mind doing it, at all! You know, because I feel that's all part and parcel of it, to make sure that the resources are there and that they're usable and checked and everything."
"So it's not something you think you might get fed up with?"

CT2 "No." (laughs)

Q "Good! Well, actually, I haven't really got fed up with it. It's just - it's the organising, getting them to bring the packages back really."

As we only had ten learning packages CT2 did not feel that we could change the organisation in any way, although, like me she felt it would be preferable to issue them before the learners actually arrived on the ward.

Q "And what about the issuing of the actual materials and the keys?"

CT2 "I don't see how we can do it much differently really. It would be nice if they could have it the weekend, or the Saturday or something, before they start, but I honestly don't see how they can, because by the time you've collected them all in and they've been checked over and tidied up and things, and then when they've done their pre-test, obviously they can't have it before that, I don't see that we can give them any sooner."

CT2 had not found any difficulties associated with the learners being released from their ward duties to do their tests or receive their learning packages. However she did admit to making a conscious effort to establish a good rapport and liaison with the permanent ward staff when she first arrived. She saw this as a very important part of the clinical teacher's role in any ward situation.

Q "Has it ever, do you think caused any problems to the ward, withdrawing the students to do tests, or give them materials, or whatever?"

CT2 "No, no, it hasn't appeared to."

Q "No. You haven't felt that they were aggravated by it?"

CT2 "No, they've always been only too - quite happy to let them go."

Q "Yes, well, I find the same. You did say to me the other day that you'd spent quite a lot of your first year organising an environment in which you felt you could ask?"
CT2 "Yes."

Q "How much do you think you consciously worked at that, or how much of that would have just been how you are anyway? Is it possible to answer that?"

CT2 "Um, with some of the staff, I've worked quite consciously at it. Some of them when I first arrived, weren't standoffish, but I felt a bit of an intruder – which I suppose is natural."

Q "Which we are, really?"

CT2 "Yes. So I have, with some of the staff, worked at it, so to speak, to improve the atmosphere and relationships. Others it's come very easily."

Q "Yes. So do you feel you've now reached a stage when it's reasonably easy to carry out, within reason, what you want to do?"

CT2 "Yes."

Q "How long, do you think, it took really, to get that sort of situation, with the majority of people? About?"

CT2 "Mm, I suppose, roughly a couple of months, I suppose, really, to become accepted."

later

Q "Do you see access to the teaching area as a potential problem for a clinical teacher or somebody who teaches in a clinical area?"

CT2 "Yes, it could well be, mm. I think that, you know, the teacher has to be prepared to work at it."

Q "Mm. What sort of things do you think you need to do?"

CT2 "Well, I think, first and foremost, is not to go blundering in there as if you're going to take over the place!" (laughs)

Q "Yes."

CT2 "Most definitely. And put everybody's backs up, to start with."

Q "Sure yes."

CT2 "It's nice if you can have coffee with the staff, from time to time, keep up the social side like that - to just chat to them, to spend the time to - you know - take the time to talk to them. And if there's any problems that you can help with, even ask their advice."
Q: "Yes, so really a lot of the organisation if you haven't got that good atmosphere, might fall down?"

CT2: "I'm sure, yes."

During her first interview the only organisational problem that CT2 was conscious of was the amount of photocopying which was needed to produce the workbooks.

Q: "Are there any organisational problems that you can think of, either from your point of view, or the students point of view, or the wards point of view?"

CT2: "The only thing that I think I'm a bit wary of is the photocopying, doing so much here. I'm never sure quite how they receive us down there." (This refers to the basement of the hospital where the photocopier is kept.)

Q: "What's given you the feeling that they perhaps don't receive us very well?"

CT2: "Well, once or twice, when I've been down, there's been nobody there, so it's been great and I've done quite a bit, but before I've finished, people have come in and they're queueing up and they're obviously office staff, and you sort of feel a bit as if you were, you know, wasting their time and monopolising the machine, and things like that." (Laughs)

CT2 reiterated this issue in her second interview stressing that overall her only real problem connected with the administration of the project was the amount of time which was needed.

Q: "Are there any particular problems for you now that you are totally responsible for the learning package?"

CT2: "Only the time that it takes for the photocopying, preparation of workbooks, marking and things like that, the time involvement as far as the, um, running of it goes. I think that is the only problem."

Q: "You, did mention this before about the photocopying, and that it worried you. What are you doing currently?"

CT2: "Well, currently I'm trying to do as much photocopying as I can at the school, rather than doing it downstairs, as I do feel very guilty when I am ploughing through all those workbooks."
As the photocopying proved to be such a problem it was eventually decided that the workbooks should be printed. This saved a tremendous amount of time and was considerably cheaper.

In spite of the time CT2 had to devote to the administration of the Learning Package she did not feel that the rest of her work really suffered. However she did admit that it was sometimes difficult to issue the packages at the right time. Also she had occasionally had to forfeit working with a student clinically in order to deal with the administration.

Q "Do you feel anything else suffers because of the extra time you need to administer the package?"

CT2 "Not a great deal no, not now that I have re-organised my clinical areas a bit, and am now devoting myself just to the two areas specifically, Theatre and Orthopaedics. I can now fit it in better because obviously there are times when either there are no students available for me to work with, I can sit down and do some preparation then, occasionally its a rush and perhaps one or two things will suffer, maybe they will get the package a little bit later than they would have done or I just miss working with a student one more time or something, so that I can get it in."

Q "But overall do you think the advantages you have talked about (in relation to her teaching, as quoted in part i of this section) outweigh the disadvantages?"

CT2 "Oh, most definitely, yes."

Later on in the interview CT2 agreed with the suggestion that it would be quite feasible to use secretarial or technical staff to carry out some of the administration connected with the learning package and that this would save a lot of her time.

Q "Who do you think in a school of nursing, if we had a lot more of this stuff, could be responsible for this type of thing?"

CT2 "Someone who is responsible for all the learning aids. They could do all the sorting out, then the teacher could do the tests and issue the packages. A secretary could get all the workbooks together. It would be very nice if we could, but we keep getting told that secretarial staff is at a premium and we can't really use them."
CT2 felt that one of her main difficulties in this respect was that a lot of the other staff in the School of Nursing did not understand all the administration which was involved with the organisation of the learning package.

Q "What reaction has there been from the school staff relating to the running of the package or whatever?"

CT2 "I think the majority of tutors do not understand the amount of organisation that needs to be done with the package. This was made abundantly clear when we did our audit, and it was found that quite a lot of my time was taken up with records and that type of work. Um, and they could not see why, as a clinical teacher, one or two obviously understood it, but the majority couldn't understand why."

Q "Did this cause any upheaval in any way?"

CT2 "I felt it caused a little bit of aggravation in as much as maybe they felt I wasn't doing my job 'properly' in inverted commas."

Q "The rest of your job properly, you mean?"

CT2 "Yes, yes, because so much time was spent with the package, or appeared to be spent with the package. When it was just looked at in figures, but in fact if the rest of the figures were worked out, you know it wouldn't have been that much."

When asked what she would like to see in the future as regards the administration of the learning package, CT2 included the following points:

1) Computerisation of records, test results and possibly the workbook/study guide. CT2 described a system which she was working on with NT2 to give each individual learner the result of their pre-test on a computer printout together with a suggested plan of study.

2) More tutors in the School of Nursing with a knowledge of the learning package and how it was organised. I had given one talk to the school staff about the project as a whole, but both CT2 and I felt that another one was needed.

3) More involvement from the ward staff with the organisation of the learning materials. Chapter 7(B)3(iii) gives the views
of the ward staff themselves about helping with the organisation of the learning materials. Although they said they would be happy to do this in an emergency, they felt that the pressures of ward work made this impossible on a regular basis. CT2 agreed with the Ward Sisters (WS1 and WS2) that if it were ever possible for the ward staff to help with the administration of the package on a regular basis, a specific person on each ward should be made responsible.

CT2 "It would be better for one person to hold the reins. It would be super if a staff nurse could supervise the students all the time, like they do in preceptorship programmes, then the Clinical Teacher could issue the packages and do the testing."

In summary, CT2 said she had been quite happy to play an increasingly responsible role in relation to the organisation and administration of the learning package and to eventually take this over completely. Although she felt it would be preferable to issue the learning packages to the students a few days before they arrived on the orthopaedic wards, she felt that the method of administration which we adopted was the most logical in light of the amount of resources which were available.

CT2 had found the permanent ward staff very helpful and co-operative and had not encountered any difficulties getting the learners released from their ward duties to issue them with packages or to do their tests. When she first started working on the ward she made a conscious effort to nurture good relationships with the permanent ward staff in order to create an amicable working environment. She thought that it had taken about 2 months before she felt well-accepted by all the staff. CT2 felt strongly that any clinical teacher who was newly appointed to a clinical area should adopt a similar strategy.

The only problem which CT2 encountered with the organisation of the learning package was the amount of time it took to do all the administration. This was most acute at the beginning and end of each four-week period when the groups of students changed over. CT2 agreed with me that quite a lot of this
work could be done by technical or secretarial staff. However she realised that under the present regime these staff were at a premium. In spite of this extra work CT2 did not feel that the rest of her work as a clinical teacher really suffered. Occasionally she would forfeit a clinical session with a student to do some of the administration and sometimes she would be late in issuing a particular learner with a package. Overall however she felt that the advantages which the use of the learning package offered both the students and herself (see Chapter 7(C)1(i) far outweighed the administrative problems.

CT2 did encounter a certain lack of understanding of her new role from some of the other staff in the school of nursing who did not appreciate how much time was needed to administer the project. She felt that perhaps some of the staff thought that she was not doing the rest of her job properly as compared with other clinical teachers, as she did a lot more paper work.

CT2 thought that some of these administrative problems could be eased in the future if records and test results were computerised and if the permanent staff on the wards could be more involved in the organisation of the whole project. She also saw a need for some of the other teachers in the School of Nursing to improve their knowledge and understanding of the administrative implications of using distance/individualised learning.

7(C)2 THE USE OF THE SAME LEARNING PACKAGE BY DIFFERENT GROUPS

When I set out to produce the orthopaedic learning package I decided to use the same materials for the pupil nurses and both groups of student nurses, that is those on a three year RGN course and those at the University on a four year BSc, RGN course. As all three groups of learners were working side by side caring for the patients it seemed logical to issue them with the same basic information. This
is not common practice in nurse education. Normally each group would be taught separately with its own separate curriculum and in many cases different teachers. I was therefore particularly interested to know what other teachers felt about the outcome of this aspect of the project.

Of the four teachers who were involved, NT2 was the one who made the most comments on this subject. Ever since he did the tutors' course he had been particularly interested in individualised learning generally and the Keller Plan in particular.

NT2 "I mean let's just say that what you've done has excited me because it's something that I'm very interested in."

Taking part in the project had proved to NT2 that a learning package could be produced that could be used by any grade of nurse.

Q "So, just from your point of view as the tutor, what effect, if any, do you think the introduction of the project has had on your role, as a tutor?"

The second point made by NT2 in answer to this question was:-

NT2 "It's really proved to me, from what I've seen, that one can produce a piece of work that can be used equally by any grade of nurse, and that I think is the most important thing from my point of view."

Later when discussing the use of the package for the trained staff:-

NT2 "It just seems that it has been far more successful than perhaps one could ever hope for, I think that's how I feel."

Q "Yes. As much, if not more really with the trained staff, than the students."

NT2 "And again, if I can just say, I feel yet again such an incredibly good indication, well set-up, as this is, a personalised learning system is suitable for just about anybody. We are talking here about, aren't we, as I'd said before, you've got student nurses, pupil nurses, undergraduate student nurses and trained nurses and all using the same package."
"And new teachers as well."

"So this has got to be an indication as to how effective this method is really and how, and the good point about it, the pupils love to know that they're doing the same thing as the undergraduates!"

Clinical Teacher 3 was very experienced in orthopaedics and at one time or another had been involved with teaching all three groups of learners on the wards. She also felt that it was quite acceptable to use the same learning package for the trained staff as well as all three groups of learners and that members of the various groups could select a level of learning/information/study which would suit them best as an individual.

"What do you feel about using the same materials for university students, SRNs, students, pupils, you took all groups, and even in fact trained staff at all levels?"

"I think it seems to work quite well, having read through the package myself, I would have thought it's aimed quite right in that the majority of students and trained staff can approach it how they will really at whatever level they want. I mean a lot of the sort of written work you can take at whatever level you want, I mean think of the anatomy and physiology, the facts are there as they would be at any level really, so you can either read more round it if you want to, or just take them as they come."

Clinical Teacher 1 had only worked with the pupil nurses on night duty so did not have any strong feelings about this aspect of the project. However she did feel that given a good basic grounding, nurses from all groups could expand upon it as their needs and interests grew.

"The idea is a good basic knowledge and then anybody - it's human nature - will develop it, if they've got either the ability or the interest to do so."

It can be seen therefore that all the teachers who were involved in the project felt that the learning package was quite appropriate for use by all three groups of learners as well as the qualified staff. There was a general consensus that the level of information in the package was quite acceptable to all the various groups and that those who had the ability
or the desire to further expand their knowledge were likely to do so. This data is substantiated by the members of the individual groups themselves (see Chapter 7(A)2. Student and Pupil Nurses, 7(B)3 The Qualified Nursing Staff, 7(C)1(1) The Teachers).

7(C)3 THE COST OF THE PROJECT

Appendix 10-11 gives the details of the funding for this project. The total cost including the salaries of the staff involved was £35,376.00. The contents of the ten learning packages, including the production and duplication of the tape/slide programmes cost approximately £3,700. If projects of this nature are to be duplicated either locally or nationally the cost is of paramount importance.

As it was other teachers who were likely to be instigators of further projects, it seemed important to ascertain their attitudes and opinions towards the cost. If they felt it was reasonable it seemed more likely that they would request funding for further projects than if they felt it was exorbitant.

Although answers to questions in my interviews did vary in relation to cost, none of the teachers involved in the project felt that money or time had been wasted in any way.

NT2 "It's probably approaching fifteen to twenty thousand (including salaries)."

Q "Something like that."

NT2 "It's a lot of money."

Q "It is I know, of course it's longer because it's been researched."

NT2 "I still think that the end product is going to justify it really, I mean if it had been a flop, O-kay then one could say 'Well that's a lot of money, but then again you still learnt from it.' But I think in light of the way things are running and the way they look as though they are going to carry on running, I think it's worth every penny. Because you can't look at it that way I don't think, people do but I don't think you can."
"It could be a lot more simple if you didn't use such complicated media."

"I think if it was any simpler, certainly here, I think it would detract from its attractiveness if you like, because I think that's one of the things about it with the learners, is the fact that you have got tapes and slides and bones and everything."

"I think it is money well spent."

"Right, so perhaps I could just ask you, thinking of use of resources, that is, using teachers to the best advantage and finances to the best advantage, bearing in mind that this type of learning demands a lot of time and a lot of money, could you give any of your views on how you think this could be organized, say, generally in Nurse Education? Throughout the country, perhaps?"

"Yes, I think it could be done through liaison between the tutors, the clinical teachers on the ward, and the ward sisters, as a project from the Nurse Education Centre. And I think it would be a much better use of time and money than the method that's used at the moment, which I have thought there's a lot of wastage of time. There's an awful lot of talk that the students don't seem motivated to learn for themselves, they are adults and they should now be thinking of ways of learning, but I think this method really does encourage the student to go away and find out and learn, do this basic learning package and then come back and ask for more: 'Explain, tell me, I read this, I saw that!' So, yes I do feel that this would be very - this is the first concrete step to trying to encourage the student to go away and learn for herself. And having done that, if they then can't do it, then I really think one can at least have shown that one has tried to do it."

The Clinical Nurse Specialist for the Orthopaedic Wards agreed with these two teachers that the project was well worthwhile financially, particularly bearing in mind that the longer the project is run the cheaper it becomes.

"I would have thought it was well worth-while."

"Yes, well, a lot of people, it doesn't seem to shock them, particularly that amount of money."

"Well, I suppose you can get used to thinking in larger sums, don't you, when you keep hearing
about budgets and things, but — I mean, basically you're using the same package over and over again for the different students, I mean it must in a few years time, it will have worked out at minimal, won't it?"

Although CT2 was very supportive in every way about the project, initially she was surprised when she heard about the finances and time which were involved.

CT2  "I hadn't realised, initially, the time involved in preparing it."

later

CT2  "I think again originally I was a bit in awe of the amount that it cost, but then I hadn't realized how much teaching aids did cost. Since I've become more aware of it, then I can appreciate it better."

CT3 and NT1 were both very aware of the careful consideration which we as teachers must give to the use of resources in nurse education and the need to base decisions on research evidence.

CT3  "Well, I think it would be certainly worth trying in another area, so that you've got two areas to compare, and see what results you get at the end of it, it's difficult to judge what results you get, I know."

later

CT3  "I think we also need to compare the cost of doing this with the cost of teachers and whether or not they are going to be able to maintain the number of teaching staff that they have at the moment, I mean they'd have to maintain them, at least at this level, to carry on the same sort of teaching they're doing at the moment, and if they can't, well then I would have thought the package was a very good investment."

NT1  "Yes, I suppose, in isolation it is quite a lot of money, when you think of someone's salary and then £2,000, but when you think of the money that is poured into all sorts of resources, it's not."

later

NT1  "Unless we try and find new things, then there won't be anything new to select from, so innovation is always going to be that bit more expensive than established methods of dealing with problems."
I also discussed the total cost of the project with the trained staff on the two orthopaedic wards. Although a few of them had never really given any thought to the cost of education the majority agreed with the teachers that the financial outlay was quite reasonable and that it was money well spent.

Ward Sisters

WS1 "Anything that's educational and beneficial to the training of any of us is beneficial and we all learn, no matter what age and how much experience we've got."

Q "Yes, that's right. So you would feel that, bearing that in mind, that was reasonable to spend that time and money."

WS1 "Oh yes. I wish we had had something like that when we trained."

WS2 "I think that's cheap, really, for the equipment we've got and for the benefit that the students are getting from it. I think it's money well-spent. I'm surprised, I thought it would be more."

Staff Nurses

SN1 "I think it's worthwhile. I think you've done a very good job."

Q "Mm, well I mean, do you think it's - are you surprised at the amount of money?"

SN1 "Actually, I thought it might have been probably more than that."

SN2 "I think it's worthwhile, yes. I don't know whether we can afford it but I think there's probably other areas where money is wasted, and I think teaching is an area that they need to spend money on, so - it wouldn't worry me. Whether it would bother administrators I don't know!"

SN3 "It's going to keep on being repeated - it's not going to be used just by a few people, it's going to be used for X number of people. It's money well-spent."
"I suppose it is expensive but what's that if you are going to do nursing properly!"

Enrolled Nurses

"It sounds quite a lot of money but I think it's probably well worth it. I mean, if they had that on all the wards, or something quite similar, they would probably er - could cut down on the - um - clinical teachers, possibly. So therefore they would save money that way."

"I can understand the time, but the money! I mean, although it is worth the money, but that's very expensive, isn't it?"

"Have you ever thought how much education costs?"

"Well, no, I mean, you don't really, do you? I've never really sat down and thought about it, I mean, it's always been there!"

later

"Well, I suppose that's quite good value for money, isn't it in the long run? But I'm not surprised about the time, I mean, because well - if it had been done in any less time, it could've been turned into a rushed job, and I think you needed all that time to actually get down what you did get down."

Overall the data show almost unanimous agreement from both the teachers and the qualified ward staff who were involved with the project that the time and money which were spent on its production were reasonable, particularly when considering the favourable outcome of the exercise. A small minority of staff were surprised by the cost of the project. They did however admit to their ignorance on the funding of educational projects generally.

Several staff pointed out that the longer the project was in operation the cheaper the initial outlay became.
Others stressed the need to look very carefully at all the educational resources available in the clinical areas, particularly the teachers, and the need to compare these with the cost of the project. If teachers became more scarce the value of the project would increase.

The point was made that to have reduced the time and therefore the cost of the project by making it more simple and less sophisticated would have made it less attractive to the students. It was stressed that innovation was always expensive but none the less very necessary in order to increase the repertoire of the teachers of the future.

The need was voiced to set up more projects of this nature on a national basis, thus reducing the cost of production and easing nurse education budgets centrally.

7(C)4. OTHER AREAS WHERE THIS METHOD OF LEARNING WOULD BE PARTICULARLY HELPFUL

Owing to constraints of time and money similar to those mentioned in the previous section a project of this type can only be expanded slowly within an institution. It is therefore important to be very selective and to give careful thought as to how to progress. For this reason the final section of my data analysis is prescriptive and gives the opinions of those who have experienced using and administering the learning package as a basis for deciding which areas to move to next.

All the nurse teachers whom I interviewed agreed that it would be beneficial to introduce similar methods of self-directed learning to other areas.

NT2 "To me it would be a crying shame if it just stuck, the concept was just allowed to stick in one area and never moved anywhere else, especially in view of the fact that the learners have, time and time again, have said 'I wish that this was the way we could be taught in other areas', they say it, and I think to take no notice of them would be criminal really."
NT1 "I think there ought to be more things on wards. They are difficult to manage, but I don't think that should put us off at least trying. I would start off by picking out areas that people have particular difficulties with, and areas they only go to for a short time, where the amount they learn is going to be in four weeks."

Two of the clinical teachers thought there was a particular need for this type of approach on medical wards. This need was substantiated by evidence from the students themselves (see Table 7(C)1).

Q "Say we had the money and time to move into another area, which do you think, would be the most beneficial? What sort of area do you think we might concentrate on, say if we went to another area?"

CT1 "Medical."

CT3 "Medical wards, definitely. But I would have thought any speciality."

In order to establish the areas and topics which were mentioned most frequently by all the people involved in the project, including the learners, I have analysed the data from my interviews to present in tabloid form (see Table 7(C)1).

From this table it can be seen that the General Medical and Surgical Wards were suggested most frequently as areas where the expansion of self-directed learning methods would be most beneficial in the first instance. The most popular topics were care of patients with heart diseases, cerebro-vascular accidents, diabetes mellitus and those having gastro-intestinal surgery. Care of wounds and wound drains was also given high priority.
Table 7(C)1 Suggestions Made for the Expansion of Self-Directed Learning Methods to Other Clinical Areas

<table>
<thead>
<tr>
<th>Clinical Areas Suggested</th>
<th>Specific Topics Suggested</th>
<th>Staff Who Made The Suggestions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medical Wards</td>
<td>Heart Diseases x 11</td>
<td>Student Nurses: 2, 7, 9, 12, 14, 16, 18, 19, 25 and 27</td>
</tr>
<tr>
<td></td>
<td>Cerebro-Vascular Accidents x 6</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Diabetes Mellitus x 6</td>
<td>Pupil Nurses: 4 and 6</td>
</tr>
<tr>
<td></td>
<td>Chest Diseases x 3</td>
<td>University Students: 2, 3, 4 and 6</td>
</tr>
<tr>
<td></td>
<td>Care of Patients on Cardiac Monitors x 2</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Use of Inhalers x 1</td>
<td>Staff Nurse: 1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Clinical Teachers: 1 and 3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Total 20</td>
</tr>
<tr>
<td>Surgical Wards</td>
<td>Gastro-Intestinal Surgery x 6</td>
<td>Student Nurses: 3, 5, 8, 10, 11, 12, 14, 18, 19, 26 and 27</td>
</tr>
<tr>
<td></td>
<td>Care of Wounds/Drains x 5</td>
<td>Pupil Nurses: 1, 2, 6, 10, 12</td>
</tr>
<tr>
<td></td>
<td>Colostomy Care x 4</td>
<td>University Students: 3 and 6</td>
</tr>
<tr>
<td></td>
<td>Urology x 4</td>
<td>Total 20</td>
</tr>
<tr>
<td></td>
<td>Care of Patients With Naso-Gastric Tubes x 2</td>
<td></td>
</tr>
<tr>
<td></td>
<td>All areas x 2</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Vascular Surgery x 1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Catheter Care x 1</td>
<td></td>
</tr>
<tr>
<td>Neurology Wards</td>
<td>Epilepsy x 2</td>
<td>Student Nurses: 12, 19, 24, 30</td>
</tr>
<tr>
<td></td>
<td>Neurological Observations x 1</td>
<td>Pupil Nurses: 3, 4, 10, 11</td>
</tr>
<tr>
<td></td>
<td>Head Injuries x 1</td>
<td>University Students: 2 and 3</td>
</tr>
<tr>
<td></td>
<td>Care of Patients Who Are Unconscious x 1</td>
<td>Total 11</td>
</tr>
<tr>
<td></td>
<td>Care of Confused Patients x 1</td>
<td></td>
</tr>
<tr>
<td>Clinical Areas Suggested</td>
<td>Specific Topics Suggested</td>
<td>Staff Who Made The Suggestions</td>
</tr>
<tr>
<td>--------------------------</td>
<td>--------------------------</td>
<td>-------------------------------</td>
</tr>
<tr>
<td><strong>Paediatric Wards</strong></td>
<td>Baby Care x 4</td>
<td>Student Nurses: 4, 13, 24</td>
</tr>
<tr>
<td></td>
<td>Feeding x 1</td>
<td>Pupil Nurses: 13, 24</td>
</tr>
<tr>
<td></td>
<td>Play x 1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Care of Children on Traction x 1</td>
<td>1, 3 and 9</td>
</tr>
<tr>
<td></td>
<td></td>
<td>University Student: 7</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Enrolled Nurse: 1</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Total 8</strong></td>
</tr>
<tr>
<td><strong>Gynaecological Wards</strong></td>
<td>Abortion x 1</td>
<td>Student Nurses: 1, 7, 23, 30</td>
</tr>
<tr>
<td></td>
<td>Pelvic Floor Repair x 1</td>
<td>Pupil Nurses: 2 and 9</td>
</tr>
<tr>
<td></td>
<td>Psychological Aspects x 1</td>
<td>University Student: 7</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Total 7</strong></td>
</tr>
<tr>
<td><strong>Intensive Care Unit</strong></td>
<td>Care of Patients on Ventilators x 2</td>
<td>Pupil Nurses: 5, 10, 12</td>
</tr>
<tr>
<td></td>
<td>Care of Patients Needing Suction x 1</td>
<td>Nurse Teacher: 2</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Total 4</strong></td>
</tr>
<tr>
<td><strong>Operating Theatres</strong></td>
<td>Scrubbing-Up x 1</td>
<td>Student Nurses: 1 and 2</td>
</tr>
<tr>
<td></td>
<td>Handling Instruments x 1</td>
<td>Pupil Nurse: 11</td>
</tr>
<tr>
<td></td>
<td>Types of Instruments x 1</td>
<td>Clinical Teacher: 2</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Total 4</strong></td>
</tr>
<tr>
<td><strong>Accident and Emergency Department</strong></td>
<td>Burns x 1</td>
<td>Student Nurse: 6</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Clinical Teacher: 2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Clinical Nurse Specialist 1</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Total 3</strong></td>
</tr>
<tr>
<td>Clinical Areas Suggested</td>
<td>Specific Topics Suggested</td>
<td>Staff Who Made The Suggestions</td>
</tr>
<tr>
<td>-----------------------------------------------</td>
<td>--------------------------------------</td>
<td>-------------------------------------------------------</td>
</tr>
<tr>
<td>Practical Procedures For All Areas</td>
<td>Bed Bathing x 1</td>
<td>Student Nurses: -</td>
</tr>
<tr>
<td></td>
<td>Mouth Care x 1</td>
<td>17, 18, 28</td>
</tr>
<tr>
<td></td>
<td>Eye Care x 1</td>
<td>Total 3</td>
</tr>
<tr>
<td></td>
<td>Injection Techniques x 1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Care of Intravenous Infusions x 1</td>
<td></td>
</tr>
<tr>
<td>Thoracic Surgery Wards</td>
<td>Pneumothorax x 1</td>
<td>Staff Nurse: -</td>
</tr>
<tr>
<td></td>
<td>Chest Drains x 1</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>University Student: -</td>
</tr>
<tr>
<td></td>
<td></td>
<td>7</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Total 2</td>
</tr>
<tr>
<td>Obstetrics</td>
<td>Normal Delivery x 1</td>
<td>Student Nurse: -</td>
</tr>
<tr>
<td></td>
<td></td>
<td>29</td>
</tr>
<tr>
<td></td>
<td></td>
<td>University Student: -</td>
</tr>
<tr>
<td></td>
<td></td>
<td>7</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Total 2</td>
</tr>
<tr>
<td>Oncology Wards</td>
<td>Pathology x 1</td>
<td>Pupil Nurse: -</td>
</tr>
<tr>
<td></td>
<td>Chemotherapy x 1</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Radiotherapy x 1</td>
<td>Total 1</td>
</tr>
<tr>
<td>Ophthalmic Wards</td>
<td></td>
<td>Staff Nurse: -</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Total 1</td>
</tr>
</tbody>
</table>
At the time of writing this thesis it has not yet been possible to expand this method of learning to other areas on a local basis, although nationally the use of this approach is growing (see Chapter 2.2(a)).

I trust however that the data obtained from this research project has produced evidence which is sufficiently convincing that one day methods of self-directed learning will be employed in all clinical areas where nurses are trained and educated.

"Professional practice involves the capacity for self-direction, translation of theory to practical implementation and application of these new learnings in the service of mankind."

Buckholz (1979) p 12
8.1 INTRODUCTION

The aim of this chapter is to review the strategies which were adopted in order to carry out this study and to summarise the findings.

The study is concerned with the use of self-directed learning in Nurse Education. This thesis describes the planning (see Chapter 4), production (see Chapter 5), implementation (see Chapter 6) and evaluation (see Chapter 7) of learning packages for use by student and pupil nurses while they are based in the clinical areas.

The need for setting up such a project is based on the following problems (see Chapter 2.1) which face us in nurse education today:-

1) Inadequate teaching and support from both the educational and clinical staff for student and pupil nurses whilst they are allocated to the clinical areas (Fretwell (1979), Orton (1979), Ogier (1980), Reid (1983), RCN (April 1985 Judge).

2) A lack of integration of theory and practice for learner nurses whilst they are working in the clinical areas.

(Alexander (1983))

3) An expansion of the curriculum in general nurse training programmes which highlights the need for more teachers with specialist experience and knowledge.

(GNC, 77/19/A)
4) A pattern of multiple intakes of students per year to schools of nursing leading to a need for frequent repetition of the same module of teaching and learning both in the school of nursing and the clinical areas.

5) A changing philosophy in the approach to nursing care which calls for students to adopt a more critical approach to their practice and a need to become more responsible for their own learning.

It would be naive to imagine that any one teaching or learning method or educational strategy could solve all these problems. However it seemed probable that schemes of self-directed or distance learning, together with the associated tutorial support for students when they are allocated to the clinical areas, could help to alleviate many of them.

Holmberg (1977) pointed out several specific characteristics of distance learning which are relevant to the problems which have just been highlighted. These characteristics are primarily:

"1) The applicability of distance education to large groups of students as a kind of mass communication, particularly attractive at times when educational institutions are overburdened.

2) The possibility of improving the quality of instruction by assigning the best subject specialists and educationalists available to produce courses for large groups of students.

3) The effectiveness of the method, proved by the students' acquisition of knowledge and skills.

4) The economy of large-group approach and the fact that the need for residential teaching is eliminated or diminished and that study can take place during leisure or 'off duty' times.

5) The possibilities for individualization of study pace and - to some extent - to study content."

(This is a particular advantage when dealing with students of broad educational backgrounds. In my study the same learning materials were used for
pupil nurses, student nurses, undergraduates on a BSc in Nursing course and a wide range of qualified staff.)

6) "The student's habit-forming experience of work on his/her own which is felt to develop independence and lead to greater autonomy than other types of study."

Holmberg (1977) (p 18)

Although self directed/distance learning is already established in nurse education in the United Kingdom (Johnson (1985), Robinson (1984)), many problems have not been tackled by this method, particularly in the clinical areas, and very little research has been carried out to evaluate its use.

This study is divided into four main phases as follows:-

1) Planning and Setting Up the Project (Chapter 4)

2) Production of New Learning Materials.
   Putting the Package Together (Chapter 5)

3) Implementing and Organising the Main Project (Chapter 6)

4) Analysing the Data from the Main Project (Chapter 7)

Several underlying philosophies ran throughout these four phases. My primary aim was that the learning package which was produced should be a combined effort between the ward staff and the teaching staff. I therefore involved colleagues from both the School of Nursing and the Wards during each phase of the project. I was also keen that a multi-disciplinary approach should be taken to the production of the learning materials. For these reasons I sought the opinions of the medical and paramedical staff as well as the nursing staff and patients before making any decisions during the planning and production stages of my work.

I wanted to produce learning materials of a high quality which were truly representative of the real life situation. I therefore sought the assistance of both
clinical and technical experts and, whenever possible, used the normal ward situation for taking photographs to illustrate the various aspects of nursing care.

My evaluation of the project aimed to be truly holistic, describing the behaviour and collecting the opinions from the individual perspective of all those involved. For this reason I chose the case study approach as my research method using the techniques of Parlett and Hamilton (1977) (see Chapter 3).

The Clinical Areas which were used in this project were two orthopaedic wards situated on the same floor of a medium-sized District General Hospital. These wards were chosen for the following reasons:-

1) Orthopaedics is a speciality, so lends itself to this approach to learning as it is self-contained. It is also a subject which can be well portrayed visually and therefore could be easily presented on slides or video-tape.

2) These were the only two wards in the hospital which dealt with the same patient problems and could therefore be compared with each other.

3) All the learners were allocated to these wards in their second year, meaning that they had a variety of previous experiences to use as comparisons. There were also learners from all three groups on these wards, namely pupil nurses, student nurses and university students.

4) Finally, these were wards where I had previous experience as a teacher and would be more likely to be well accepted. I also had a knowledge of the subject.
8.2 THE SITUATION BEFORE THE INTRODUCTION OF SELF-DIRECTED LEARNING

During my preliminary interviews with both the staff and the patients (see Chapter 4.5) and from my pilot study (see Chapter 4.9) I was able to highlight a definite need for an improved learning milieu on these wards. There was no set teaching or learning programme established on either of the wards. The Clinical Teacher cover was very variable and the qualified ward staff, although aware of the students' needs for teaching and learning, felt unable to fulfil these needs due to the pressure of ward work. Very few resources for learning were available on either ward.

The students related that a lot of their learning was from each other, the auxiliaries and in some cases the patients (particularly on night duty). The ward report was said to be one of the most consistent forms of learning although it was observed that students did not ask a lot of questions or make many comments during this period. Some patients related instances when they were aware that students did not know how best to care for them.

Data collected from the learners' questionnaires showed that a high proportion from all three groups were dissatisfied with their training so far, particularly the student nurses (see Chapter 7(A)1). Common reasons given were lack of teaching and support in the clinical areas, poor communications between the wards and the school/university, and certain aspects of the theoretical components of the course. Examples of the latter were irrelevant lectures not related to practice and a surfeit of information being given at one time in study blocks.

Apart from a few reservations from one or two of the students who felt they had enough work to do already, there was general agreement that the introduction of a scheme
of individualised learning would be helpful and beneficial (see Chapter 4.6). Several students expressed a need to do work assignments on the wards in order to check that what they were doing was correct (see Chapter 7(A)1).

Some of the qualified staff felt that the students should work harder and that they should expect to do more work in their off-duty time.

The students stressed that in order to be really useful and beneficial the learning materials would need to be interesting, varied and well-produced. They felt that the amount of work that people would do would vary considerably.

I did not receive any negative comments concerning either this method or the media I intended to use. There was general agreement that tape/slide programmes would be quite adequate if video-tapes could not be used. A high proportion of the qualified staff showed an interest in using the learning package themselves (see Chapter 4.6).

8.3 THE PLANNING STAGE

During the planning stage of the project my overriding aim was that the learning package should contain materials of a high quality which were selected and produced using the combined efforts of both the teaching and the ward staff.

Information generated by interviews with doctors, paramedical staff, nurses and patients proved to be invaluable both for formulating learning objectives (see Chapter 4.4) and for making decisions concerning the content of the learning package and the media which should be used (see Chapter 5.1).
8.4 PRODUCTION OF THE LEARNING MATERIALS

It was found that the majority of ready-made learning materials concerned with orthopaedic nursing were unsuitable for inclusion in the package. They were either poorly presented in some way or irrelevant to local practice (see Chapter 4.7). It therefore became obvious that I would have to produce the majority of these materials myself.

Some very definite issues arose from the production stage of the project (see Chapter 5). Firstly it took a long time: Eighteen months in total. This finding supports studies in nurse education by Hogstel (1976), Coutts and Cohen (1983) and Logue (1984). This was mainly due to the decision to use tape/slide programmes as one of the main media and to take as many photographs as possible in the real life situation. All the programmes were produced locally with the help of technical experts in audio-visual aids, clinical experts on the wards, and the patients. In all seven programmes were produced all of which had learning objectives, contained student activities and were followed up by exercises relating to patients. Although the use of experts is essential in order to attain quality, it does add to both the time and cost which is involved and should be carefully considered in any similar ventures of this nature (see Chapter 5).

The second issue arising from the production stage concerns the need for careful planning and preparation. This was not only to produce a high standard product but also to foster and maintain the co-operation and goodwill of the staff and patients who were involved. When filming in the ward areas there was also a great need to be perceptive to the changing situation regarding work load, and to be prepared to alter plans at short notice if necessary (see Chapter 5.2).
Overall the production stage was well received by the ward staff who felt well-informed and involved with the whole process. They were pleased that their wards had been chosen and felt that this stage in itself was a useful learning experience. They also commented that communication between the ward and the school had generally improved during this period (see Chapter 7(B)1).

The final issue emerging from this stage concerned the need to organise the materials in the package in an orderly way and to issue them in conjunction with a study guide which is clear and logical. Tests should be carefully compiled and should relate clearly to the content of the package (see Chapters 5 and 6).

8.5 THE IMPLEMENTATION AND ORGANISATION OF THE MAIN PROJECT

The implementation of the main project was heralded by an exhibition of all the learning resources which had been collated or produced. This was held in the ward areas and all the staff who were involved were invited. The concept of holding the exhibition was well accepted and those who attended said they felt that the materials were interesting, informative and well-presented. However as several staff were unable to attend due to pressure of ward work, holidays or sickness, it was felt that the whole exhibition should have been repeated after a few weeks (see Chapter 6.1).

The pilot study (see Chapter 4.9) showed that it was preferable to issue all the learning materials to the students at one time at the beginning of their ward allocation. As it was found that individual learners worked at very different rates, it was felt that the administration would prove very difficult if each unit of the package were issued separately.
The following strategy was adopted for the organisation of the main project:-

a) The learner took a pre-test to assess her base line knowledge relating to orthopaedic nursing. The result was discussed with her before she was issued with the package (see Chapter 6.3).

b) The total learning package was issued together with a detailed explanation of how it should be used. Students were free to study the content of the package in any order they liked although a logical sequence was laid out in the study guide (see Chapter 6.4).

c) Learners were visited by a teacher approximately once a week on day duty and once a fortnight on night duty in order to discuss their progress and answer any queries. Although this was quite easy to manage for the majority of the time, there were some difficulties when the teachers concerned were on holiday or off sick. In order that these meetings could take place there was a need for careful liaison between the teacher and the learner in relation to off-duty (see Chapter 6.5).

d) During the last few days of their allocation the learners took a post-test, the results of which were discussed immediately with the learner, together with suggestions for further study if necessary (see Chapter 6.6).

e) The learning materials were collected, checked and prepared for the next group of learners. On occasions one or two of the learners would forget to return the package which caused problems with their issue to the next group. However throughout the entire time that the project was monitored great care was taken of all the materials and there were no breakages or losses (see Chapter 6.7).

Over a period of nine months a total of 50 learners were closely monitored during the time they used the learning
package. This comprised the total sample of learners who were allocated to the orthopaedic wards during this period. The numbers from the three groups taking part were as follows:

1) Thirty-one students on day duty (4 week allocations)
2) Twelve pupils on night duty (8 week allocations)
3) Seven university students mainly on night duty (5-6 week allocations)

Data were collected from these learners using a variety of techniques including questionnaires, self-report diaries, evaluation sheets of learning materials, test scores, workbook content and semi-structured interviews. All the teachers and senior nursing staff who were involved were also interviewed together with a cross-section of the other qualified staff who were working on the wards (see Chapters 6.3, 6.5, 6.6, 6.7, 6.8 and 6.10).

The summaries which follow pull together the findings from these data which are discussed in Chapters 6 and 7.

8.6 GENERAL FEELINGS ABOUT THE USE OF LEARNING PACKAGES/ DISTANCE LEARNING/INDIVIDUALISED LEARNING IN THE CLINICAL AREAS

Overall a predominance of positive feelings were expressed, by both the learners and the qualified staff, towards using this method of learning in the clinical areas. This supports the findings from projects in nurse education where such methods were used in the school and college situation (Blatchley et al (1978), Dunsmore (1977), Hogstel (1974), Logue (1984)).

Learners particularly appreciated having all the materials together, the fact that they could take them home, and being able to choose from a variety of media. Several subjects commented how difficult it is to obtain library
books and other resources for learning when working shifts. Learners enjoyed having definite objectives and liked the structure and the format of the work which they found gave them direction. They found this particularly helpful against the background of the busy, strenuous life on the ward.

Members of all three groups of learners said that the amalgamation of these facts generally increased their motivation to work. They used such phrases as "it was exciting", "interesting", "encouraging", "enjoyable", "useful", "I took more in this way", "it made me very conscientious" (see Chapter 7(A)2).

Overall these factors led to an interesting change in the learners' study habits. They started to work sooner than with previous work assignments and continued to work more consistently and more steadily throughout the whole of their allocation.

As my learning materials were readily available and the work was broken down into specific units, both the students and the pupils did some study even if they only had a small amount of time to spare, meaning that they studied on more occasions than with other types of work. This finding, which would seem to be particularly important when considering the busy life of a nurse, is supported by Bridge (1977) in a study of using individualised learning with undergraduate science students (see Chapter 7(A)3).

All the qualified staff agreed that the content of the package which related to nursing care was an accurate description of current practice on the ward (see Chapter 7(B)3(ii). Learners also found that the content was relevant to their work and helped them to relate theory to practice and generally gave them more confidence (see Chapter 7(A)6. However some learners did not experience some of the more unusual problems which were described in the package whereas others come across things in practice which were not mentioned at all. A few learners cited instances where
the care given by the qualified staff was of a lower standard than that advocated in the package.

None of the learners objected to doing the tests. The majority felt that they had made them think more about what they were doing and that it would be helpful if this practice could be adopted in all areas. They felt the tests added to their motivation and provided an incentive to work. They found this constructive, as it was often difficult to gauge their own progress on the wards (see Chapters 6.6 and 7(A)4(e)).

A few criticisms were made relating to this approach to learning. Several of the students who were only on the ward for a month, found that there was too much work to do in the time allowed. A few pupil nurses found the work too complex, particularly the anatomy and physiology. Some learners said they were too tired to study properly as the ward was so busy, and one or two did not like this method of learning on their own (see Chapter 7(A)2(b)).

8.7 COMMENTS RELATING TO THE VARIOUS MEDIA FOR LEARNING

A high proportion of subjects from all three groups of learners said that they enjoyed using a variety of media for learning (see Chapter 7(A)4). The tape/slide programmes were particularly popular. Learners found that they could "remember things better" when they were presented visually. They also found that they concentrated better than when they were reading, particularly when activities were introduced to a programme. They liked the use of learning objectives and the way in which the information had been concentrated. They felt that it was easier to learn this way when they were engaged in heavy physical work in the wards. The only criticism of using tape/slides was that the apparatus was sometimes difficult to manipulate, which a few learners found aggravating.
The majority of learners in all three groups also enjoyed using the self-instructional and programmed texts. They found them compact, clear, concise and easy to follow. They liked the frequent self-testing in the self-instructional texts and generally found this method of learning effective, motivating and a useful form of revision (see Chapter 7(A)4(b)).

Very variable use was made of the articles which were provided in the learning package. They were used the most by the university students and the least by the pupils. The majority of subjects who used them left them until the end when they had finished the other work. However a few used them throughout their allocation relating them to the tape/slide programmes, the programmed texts or the patients they were nursing. Some learners preferred the nursing journals whilst others appreciated the wider range of information in the medical journals (see Chapter 7(A)4(d)).

Use of the learning materials which were kept centrally was also very variable with the staff on one ward using them more than the other. The display board was referred to the most. A small number of university students and student nurses took some of the extra tape/slide programmes which were stored centrally. None of these programmes were used by the pupil nurses (see Chapter 6.9).

8.8 THE MAIN DIFFERENCES BETWEEN THE THREE GROUPS OF LEARNERS

All teachers involved in the project felt that the package was appropriate for all three groups of learners as well as the trained staff. There was a general consensus that the level of information was acceptable to all groups and that those who had the ability or the desire to expand their knowledge were likely to do so (see Chapter 7(C)3).

Although the majority of subjects in all three groups of learners found using individualised learning materials equally enjoyable and useful there were marked differences
in the ways they both approached and executed their work:

The university students, who had the highest educational attainment before entering nursing and who were more used to studying on their own (see Chapter 7(A)1), completed much more of the work (96% on average) than the other two groups, and got the highest marks in both the pre- and post-tests (see Chapters 6.3, 6.6 and 6.7).

Although the student nurses completed the least amount of work (52% on average) they still did better in the tests than the pupil nurses who on average completed 70% of the work. The pupil nurses tended to jump about more in the way they worked whereas the other two groups were more likely to work through the study guide in the suggested order (see Chapter 7(A)3).

There were also differences in the way the learners reacted to the various media. In contrast to the other two groups, some of the university students felt that the tape/slide programmes were a bit slow and that the learning activities interrupted the continuity of the programme and could be rather aggravating. They would have preferred to make their own decisions when to stop the tape and only record information which they chose for themselves (see Chapter 7(A)4(c)).

Compared with the other two groups, quite a high proportion (43%) of the university students did not enjoy using the programmed texts as they found some of the subject matter over-simplified, tedious and repetitious. They did however work through these texts slightly quicker than the other two groups, whereas overall the pupils were slightly slower (see Chapter 7(A)4(b)).

The articles included in the package were used the most by the university students and the least by the pupils who said they did not find them as interesting or as easy to remember as the tape/slide programmes (see Chapter 7(A)4(d)).
The reaction of the three groups towards the visits of the teacher during the time they were using the package also differed. Although the majority agreed that these visits were encouraging and increased their incentive to work, the university students said they would have done the same amount whether or not they had seen a teacher. As the work was self-explanatory it was easy to follow and plan themselves and did not create any queries or problems, meaning they would have been happy to work independently. However the pupil nurses and a few of the students felt that they definitely worked harder because they were visited regularly by a teacher. These visits made them feel more secure and they liked to know that someone cared about them and showed an interest in their work, particularly when they were on night duty (see Chapter 7(A)5).

8.9 THE EFFECT OF THE LEARNING PACKAGE ON THE TEACHING ROLE OF THE TEACHERS AND QUALIFIED WARD STAFF

The presence of the learning package had a significant effect on the teaching role of both the teachers and the qualified staff on the wards.

All the teachers involved said that their teaching role had changed in some way since the learning package had been introduced (see Chapter 7(C)1(i)). Although there were a few common areas of change these tended to be specific to the individual teacher concerned:

The nurse tutor responsible for planning the block before the learners were allocated to orthopaedics was able to make it less concentrated knowing that they were guaranteed further information on the ward.

An experienced clinical teacher who had worked in these areas for some years found that she was able to pitch her teaching at a higher level than usual, as the learners' basic knowledge was improved by the package. Due to this increased
knowledge she found the learners less passive and more forthcoming with their comments and more likely to ask questions. This meant that her style of teaching could be less didactic. Similar comments were also made by several of the qualified staff on the wards.

A newly appointed clinical teacher used the package to increase her own knowledge and found that its structure provided her with a framework in which she herself could operate. She designed her teaching programme to supplement and complement the information contained in the learning package.

The only clinical teacher in the hospital on night duty felt that the package amply replaced the small amount of teaching cover which she could give to the orthopaedic wards. She therefore only paid short visits to the pupils to answer any questions and assess their progress and concentrated her teaching elsewhere (see Chapter 7(C)1(i)).

The qualified nursing staff on the wards generally agreed that their teaching role had become easier in a number of ways since the package was introduced (see Chapter 7(B)4). The most common reason was that it formed a basis for their own teaching. There was not the same need to start from the beginning with every learner as they had done before learners understood the rudiments of orthopaedics from studying the package and were more conversant with the terminology.

As the students were more forthcoming and asked more questions, teaching and learning became more of a two-way process. Learners seemed happier to learn at the bedside and did not complain that they were not being taught, as they did before.

One of the ward sisters felt that the package had helped her tremendously with the level of her teaching. She now thinks that previously this had been too high for basic learners. As the students asked more questions she was able
to build up a rapport with them more quickly than she had been able to before.

Overall the presence of the package had removed a lot of the guilt which the trained staff had felt when they did not have time to teach. However they did not feel that they gave any less time to teaching but just that they used what little time they had in a different way.

Several of the Enrolled Nurses felt that they gained a lot of confidence from using the package. It had confirmed that the care they were giving was accepted practice and had increased their understanding of the rationale behind their actions. Consequently they felt happier to pass on their knowledge to the learners.

8.10 THE EFFECT OF THE LEARNING PACKAGE ON PATIENT CARE

There was definite evidence to show that information gained from the learning package had a direct influence on patient care (see Chapter 7(A)6). Learners from all three groups could remember instances where they had based their care on information they had gained from the package. This included several examples of situations where the package was the learners' only source of information and therefore formed the knowledge base for all their actions.

A few of the qualified staff said they had actually changed some of their practices after studying the learning package, whereas others admitted to gaining an improved rationale for some of their actions (see Chapter 7(B)3(ii)).

8.11 THE USE OF THE LEARNING PACKAGE FOR IN-SERVICE EDUCATION

All the qualified staff whom I interviewed agreed that the learning package would be a useful method of in-service education and should be offered to all newly appointed staff.
A definite need was expressed for this type of basic information, particularly by the Enrolled Nurses who said they felt ill-prepared for their new role when they first come to the ward (see Chapter 7(B)5).

None of the qualified staff complained that the information was too basic and they all agreed that it was at an appropriate level for their needs. Even those with quite a good previous knowledge found that the package was good revision and that it was reassuring to have their knowledge confirmed.

8.12 ORGANISATION AND ADMINISTRATION

The main overall problem which was created by the introduction of the learning package was its organisation and administration (see Chapter 7(C)1(i)). In common with many other schemes of individualised learning in nurse education (Hogstel 1976, Coutts and Cohen 1982, Logue 1984) it was very time consuming for the teacher. The problem was most acute when learners changed over at the end of each allocation. Packages had to be collected, checked and re-issued, and tests had to be administered and marked. However it was felt that if schemes of this kind were set up on a larger scale within a hospital a lot of the organisational work could be done by secretaries and/or technicians. Although the teachers involved did sometimes forfeit a session of clinical teaching to organise the system it was felt that the advantages offered, to both the teachers and the students, by using this method of learning far outweighed the administrative difficulties.

Nevertheless, the Clinical Teacher most involved with the administration and organisation of the project did experience a certain lack of understanding from some of her colleagues in the school of nursing concerning her changing role. Several of them did not appear to appreciate
the time and effort needed to operate such a scheme successfully.

A conscious effort was made by the teachers involved in the project to promote and establish good working relationships with the ward staff in relation to its organisation and administration. By working closely in this way and by constantly monitoring the pace of work in the ward areas, no problems arose concerning the release of learners from their duties for educational purposes (see Chapter 7(B)3(iii)). The ward staff were always very helpful and co-operative and did all they could to ensure that the project ran smoothly. They did not however feel that they themselves could be responsible for any of the organisation of the project, as they believed that the educational needs of the students would be neglected when the ward was busy. On the other hand the ward staff did say they would be prepared to help in an emergency if the teacher was sick or absent for some reason.

If a time came when more ward staff were available it was felt that in order to achieve continuity, one specific person, possibly a junior staff nurse, should be delegated to help to organise and run the project (see Chapter 7(B)3(iii)).

8.13 THE COST OF THE PROJECT

The total cost of this project including the planning, production, implementation and evaluation was approximately £36,000. The main bulk of this was my own salary but also includes the salaries of the technical and secretarial helpers, as well as the production and purchase of all the learning materials (see Appendix 10 and 11).

There was almost unanimous agreement from both the teachers and the qualified staff that the time and money which had been spent were worth it, particularly considering the favourable outcome (see Chapter 7(C)3). During their interviews several of the staff pointed out that the longer
the project was in operation the cheaper the initial outlay would become. Others stressed the need to look at all the educational resources available in the clinical areas, particularly the teachers, and to compare their cost with that of the project. The point was made that if teachers became more scarce the value of the project would increase.

Several of the staff who were involved felt that to have reduced the time and therefore the cost spent in the production of the materials would have led to a less sophisticated product which would have reduced its attraction to the students.

It was stressed by one subject that innovation was always expensive but none the less very necessary in order to increase the repertoire of the teachers of the future.

The need was voiced to set up more projects of this nature on a national basis, thus reducing production costs and easing nurse education budgets centrally.

8.14 THE USE OF THIS METHOD OF LEARNING IN OTHER AREAS

In order to establish the best way of expanding this method of learning to other clinical areas I sought subjects' opinions during their interviews.

All the nurse teachers involved agreed that it would be beneficial to introduce similar methods to other areas. When considering the opinions of the learners as well as the teachers, the general medical and surgical wards were mentioned most frequently, followed by neurology, paediatrics and gynaecology (see Chapter 7(C)4).
9.1 INTRODUCTION

In 1979 at the International Conference on "Education of Adults at a Distance" organised by the Open University, Lord Walter Perry stated that the last ten years -

"...has seen an explosive growth of interest all over the world in what we've come to call distance learning."

Neil (1979) (Ed) (p 6)

It was undoubtedly a spark from this great explosion which kindled the tinder for this study. As with many other educational innovations and advances nursing has tended to follow rather than to lead in this area (Bond, 1984). Nonetheless this rear position has many advantages, one of which is the possibility to compare and contrast the results of one's studies with previous literature and research in an endeavour to seek the best way forward. It is these issues which I shall now address in the concluding chapter of my thesis.

I shall concentrate my discussion around the research questions which I posed in Chapter 2.1 concerning the outcome of the introduction of a scheme of self-directed learning materials to the clinical areas. I shall also address the problem of the external validity (generalizability) of the results from a small qualitative study like mine which concerns an educational innovation. Finally I shall view my findings alongside those from other research projects which have examined issues which centre on the improvement of the education of the learner nurse when she is allocated to the clinical areas.

The following are a reminder of my original research questions:-
1) What will be the effect on the integration of theory and practice if learning objectives are defined and learning packages are designed to fulfil the specific needs of students and pupil nurses in each clinical area?

2) What will be the effect on the quality of instruction of making use of specialist teachers and clinicians to prepare the self-directed learning materials which are contained in the learning package?

3) What will be the effect on the ability of the permanent qualified staff in each area to assist students with learning if specific objectives are identified and facilities for attaining these objectives are available?

4) What will be the effect on the study habits of student and pupil nurses with varying educational backgrounds and abilities if they can learn at their own pace and at times convenient to them?

5) What will be the effect on the responsibility that student and pupil nurses show for their own education if learning is self-directed?

6) What will be the effect on meeting the preferences of individual students if learning materials are provided in different forms i.e. print, audio-cassette, display boards, models? What are the implications of such a strategy for the teacher?

7) What will be the consequences of testing the learners on the content of the learning package at the beginning and end of each clinical placement?

8) What will be the effect on patient care if nurse education (in the form of distance learning packages) is geared to the specific needs of patients in each clinical area?
9.2 RESEARCH QUESTION ONE

1) What will be the effect on the integration of theory and practice if learning objectives are designed to fulfil the specific needs of student and pupil nurses in each clinical area?

"Improved integration of the two types of learning experience has long been a goal of both teachers and students in and outside of nursing. In industrial and commercial settings the geographical separation of 'school' and work, and attempts to cater in the 'school' for learners coming from a variety of practical settings, have been shown to produce problems of integrating theory and practice and maintaining continuity of learning."

Harrison et al (1977) p 504

As this quotation implies problems with the integration of theory and practice are in no way peculiar to the education and training of nurses. Wherever the 'learner' is also a 'worker' this dilemma is likely to occur.

Findings from the first phase of my study firmly established that there was a need to improve the integration of theory and practice for the learner nurses who were allocated to the wards which were chosen for this study. The teaching and learning which took place in both these wards was very variable and in some cases poor (see Chapters 4.5, 4.6 and 8.2). These findings support previous studies in nurse education which are discussed in Chapter 2.2 b [i] and [ii] (Alexander, (1983); Bendall, (1973); Birch, (1975); Dutton, (1968); Fretwell, (1980); Gott, (1982); Hunt, (1974); Jones, (1975); Lewin and Leach, (1982); Ogier, (1980); Orton, (1979); Powell, (1982); and Reid, (1983)).

Over the years a number of strategies have been introduced both nationally and locally to try to improve the theory/practice dichotomy in nurse education. Nationally these include the introduction of Clinical Teachers (Robertson (1980)), Modular Schemes of Education (Harrison et al (1977)) and the use of specific educational objectives in the clinical areas (G.N.C. July (1977)). On a local basis a small number of experimental schemes have been introduced. For example, using
an action research approach, Alexander (1980) set up a project where theory and practice were taught concurrently by nurse tutors in the clinical areas, and Fretwell (1985) implemented a strategy which led to the creation of a ward environment which was conducive to learning (see Chapter 2.2 b(4). Lathlean (1984) and Ford et al (1979) all describe schemes aimed to improve the teaching skills of ward sisters which amongst other things aided the integration of theory and practice for the student (see Chapter 2.2 b(III) a).

In line with several of the studies I have just mentioned (Fretwell (1985), Lathlean (1984), Alexander (1980)) the underlying philosophy at each phase of my own study was a joint approach to improving the integration of theory and practice between the education and service staff, or what Bryant (1985) describes as the "partnership" approach.

By adopting this strategy in the planning, production, implementation and evaluation of my scheme for self-directed learning it seemed more likely that integration of theory and practice would take place. Bendall (1973) states:

"....if the school's teaching is reasonably in harmony with what goes on in the ward, correlation is more likely."

(p 127)

Alexander (1983) felt that one of the main reasons that her experiment to improve the integration between theoretical teaching and relevant ward practice had been a success was because it had the

"....support, approval and interest of the ward staff."

(p 214)

Figure 9.1 is a model to represent the involvement of both the educational and clinical staff at each phase of my project. It also indicates the feedback mechanisms to demonstrate that this is not a static model but that the planning and production phases are re-visited wherever the need is indicated by the on-going evaluation.

By using this collaborative approach it was possible to avoid the following causes of poor integration of theory and
T = Teachers (Nurse Tutors/Clinical Teachers)
L = Learners (Students, Pupils, University Students)
C = Clinical Staff (Trained Nurses, Doctors, Paramedical Staff)
P = Patients

Figure 9.1 Model To Illustrate The Groups Who Were Involved At Each Stage Of The Project

Planning Phase
Defining Clinical Learning Objectives
(see Chapter 4)

Production Phase
Selecting and Producing Learning Materials for Package
(see Chapter 5)

Implementation Phase
Use of Learning Package in the Ward Areas
Monitoring Progress
(see Chapter 6)

Evaluation Phase
Interviewing and Questioning of Subjects
(see Chapters 3 and 6)
practice which are highlighted in previous chapters:

1) Tutors using information which was not up to date with current practices (Dodd (1973), Dutton (1968)).

2) Teaching (and learning objectives) which are too "idealistic" and not in step with the "realities" on the wards (Bendall (1973)).

3) Practical skills being taught (learnt) in isolation from theories and principles (Gott (1982)).

4) Ward staff whose knowledge of the training programme was inadequate and who did not know the educational aims for the students who were working on their wards (Harrison et al (1977)).

5) Poor communications between the staff in the school and the staff in the wards (Alexander (1983)).

My overriding aim when planning and producing the content and structure of the self-directed learning materials was that they should reflect current ward practice, and to present them in a way which was realistic and acceptable to all the staff involved. I was anxious that both the teaching staff and the ward staff would accept what Bevis (1978) describes as "ownership" of this part of the curriculum and that it should reflect their values and beliefs.

Harrison et al (1977) state:--

"A fundamental assumption underlying the idea of integration is that whilst teachers and service staff by necessity have different priorities, they can come together and agree the main educational aims and ways of attaining them."

(p 508)

My data includes substantive evidence to suggest that such a partnership was achieved in this study.

The learners involved felt that the content of the package was relevant to their ward work and that it helped them to relate theory to practice whilst they were working in the clinical areas (see Chapter 7(A)6). They liked the use of the learning objectives and the way in which the work was structured in order to help them attain these objectives (see Chapter 7(A)2).
The qualified nursing staff who were involved agreed that the information in the package was up to date and reflected current ward practices (see Chapter 7(B)3(ii). They found that the learners' basic knowledge had improved considerably after using the package and as a result they asked more questions. This perpetuated the whole learning process and further improved the relationship between theory and practice (see Chapter 7(B)4). Revans (1964) stresses the importance of giving students the opportunity to ask questions in order to help them to absorb new knowledge (see Chapter 2.2b(II)b). Overall the qualified nursing staff agreed that communications between the school staff and the ward staff had improved during the period of the project. This supports the finding of Alexander's (1983) study which used the same collaborative approach.

The teachers involved also felt that the learners' knowledge had improved since the introduction of the package (see Chapter 7(C)1(i) and they agreed with the ward staff that as a consequence the learners asked more questions.

The implications are that by using a collaborative approach such as that illustrated in the Model in Figure 9.1 it should be possible to repeat such an experiment in any area where nurse learners are placed either in the hospital or the community and by so doing to improve the relationship between theory and practice. The particular advantage of using a learning package is that, unlike a clinical teacher or a member of the qualified staff, it is always available. Whatever the pressures of ward work, every learner is assured a base line of theory to support her clinical practice.
9.3 RESEARCH QUESTION TWO

2) What will be the effect on the quality of instruction of making use of specialist teachers and clinicians to prepare the self-directed learning materials which are contained in the learning package?

In the Report of the Royal College of Nursing Working Party on "The Preparation and Education of Teachers of Nursing" (RCN 1983, Chapman) the following statement is made:

"The accumulation of nursing theory will not obviate the need for 'specialist' knowledge from other disciplines and within different areas of nursing. It is becoming increasingly necessary for access to specialist teaching as knowledge in the biological and social sciences, as well as in nursing and medicine, expands."

(p 5)

For many years one of the main criticisms of the role of the nurse teacher was that her remit has been too broad. It was felt by many both inside and outside the profession that it was unrealistic and inefficient to expect one teacher to teach effectively right across the syllabus. Judge (1985) observes:

"How can a small group of tutors, however able and determined, be expected to deliver with credibility so ambitious a curriculum."

(p 10)

Unfortunately however, especially in the smaller schools this situation does still exist and it is likely that as a result some of the teaching will be, as Judge (1985) describes, "superficial and unconvincing" (p 10).

In the preliminary phase of this study it was felt by the clinical and teaching staff that one of the best ways of improving the teaching and learning on the wards was to have more staff with a specialist qualification in orthopaedic nursing (see Chapter 4.6). However as only three of the twenty qualified nurses on the two wards at that time had an Orthopaedic Nursing Certificate (O.N.C.) and as nurses with specialist qualifications are in short supply, this would have been difficult to rectify.
Properly used, distance learning offers one way to alleviate this type of situation and to make maximum use of both nurses and other health professionals who do possess specialist knowledge. Holmberg (1977) considers one of the characteristics of distance learning which makes it most attractive is -

"....the possibility of improving the quality of instruction by assigning the best subject specialists and educationalists available to produce courses for large groups of students."

(p 18)

In chapters four and five I described how I used the opinions and suggestions of the doctors and paramedical staff as well as the nurses in the choice of the ready-made materials for inclusion in the learning package as well as during the production of new ones. This is also illustrated in Figure 9.1 in this chapter. The quality and accuracy of the materials which were eventually assembled were undoubtedly better than if I had attempted the task alone or if I had used another method of teaching, for example a lecture or discussion. My findings would certainly support the comment of Boud, Bridge and Willoughby (1975) concerning the act of committing information to paper (or other media) in the creation of distance learning materials: -

"....it results in the teacher having to think more deeply about the content and mode of presentation of the material than if he were lecturing."

(p 25)

Not only were the topic areas for the learning packages considered in great detail by a cross-section of all the ward staff, but each illustration and diagram used for the slides and each script for the tapes was discussed and examined by several "specialists" before they were finally used for the finished product (see Chapter 5.2).

Once the whole package was completed and was in use its content became "public" and as such was open to criticism and comment from colleagues.
This act of going "public" is something that many teachers may find difficult if they have never produced self-directed or distance learning materials before. Nevertheless it is an essential part of the ongoing evaluation of materials which must accompany this mode of instruction in order to produce accurate information of high quality and prevent the content being out-of-date or irrelevant (see previous section 9.2).

Pooling information and deciding on the amount and level of the content for the materials, although essential, is very time-consuming. Getting the right level of instruction for the target group is particularly difficult especially when using specialists whose own knowledge is advanced. Asking the students as well as the teachers and clinicians what they considered the learners should be able to do on completion of their orthopaedic allocation helped to solve this problem (see Chapter 4.4). This approach supports the view of Holmberg (1977) when discussing the content and structure of distance learning materials. He states:-

"The desired terminal behaviour is of decisive importance for the definition of content."

(p 23)

It was an enlightening experience to find that some of the most important and detailed comments about the "desired terminal behaviour" of the learner nurses were made by the paramedical staff (eg. the physiotherapist, occupational therapist and medical social worker. See Chapter 4.4) and not by the senior nurses.

This raises some interesting questions in relation to the composition of curriculum planning groups in nurse education. Although as a result of the General Nursing Council, Educational Policy, June 1983 (G.N.C. 83/13) curriculum planning groups did expand considerably to include learner nurses and qualified clinical nurses as well as the nurse teachers, they do not generally contain paramedical staff. This is in spite of the fact that the same document states:-
"Nursing care is but one facet of total patient care and must be carried out in co-operation with other members of the health care team."

(p 3)

Findings from my study would certainly support the concept of an even broader based approach to curriculum planning (or as in my case learning materials design) than that which is generally employed at present. Although this broad involvement may be impracticable for the central curriculum planning committee it should certainly be adopted when planning the desired learning experiences/outcomes within the clinical areas.

Because of the shortage of specialists in many spheres in nursing and the time involved in producing materials of quality a need is seen for an increase of regional and national groups to plan and produce distance/self-directed learning materials of quality on specialist subjects.

Although, as described in Chapter 2.2a major moves towards the production of distance learning materials for educating nurses on a national basis have been made by setting up such projects as the "Distance Learning Centre" at the Polytechnic of the South Bank and the G.N.C. Learning Packages on Paediatrics and Mental Handicap, there are still no national networks which can easily be used by an individual teacher or clinician who wishes to combine with other specialists in their field to produce distance learning materials.

The means by which learning materials produced by local specialists are reproduced and distributed also needs to be examined. At present this is most commonly done through negotiation with a commercial firm or publisher outside the National Health Service. The products are then bought back by Schools of Nursing or other institutions at a considerable profit to the firm. For example some of my own tape slide programmes have been published by Oxford Educational Resources and are now on offer at over £70.00 per programme which is far more than they cost to reproduce.

This situation is not only illogical but wasteful and one which should be re-examined at this time of financial crisis
within the Health Service.

This theme of the need for more centres which are geared to the production of high quality, professional distance learning materials for use by all health care personnel is taken up further in section 9.6 of this chapter.

9.4 RESEARCH QUESTION THREE

3) What will be the effect on the ability of the permanent qualified staff in each area to assist students with learning if specific objectives are identified and facilities (in the form of a learning package) for attaining these objectives are available?

The findings from the preliminary phase of my study revealed that the qualified nursing staff on the orthopaedic wards were quite definitely aware of the students' needs for teaching and learning. However due to the pressure of ward work they felt unable to fulfil these needs as they would have liked and in some instances expressed a quite definite feeling of guilt about the situation (see Chapter 4.5).

These findings support a succession of studies and reports showing that the clinical needs of the patients take precedence over the educational needs of the learners (Horder (1943), Wood (1947), Platt (1964), Briggs (1972)), (see Chapter 2.2 a'ii)), a fact which is not really at all surprising.

What has been surprising however is the effect which the introduction of the learning package, together with its objectives, has had on the teacher/facilitator role of the permanent qualified nursing staff who worked on the wards. I had anticipated the possibility of there being a general decline in teaching by other methods apart from the package due to a feeling by the ward staff that this was "all the students needed to know".

Fortunately this was not the case. Figure 9.2 is a model to illustrate what did occur.
Figure 9.2: Model To Illustrate The Effect Of The Learning Package On The Teaching And Learning In The Clinical Areas
By using the package themselves the qualified ward staff said they felt more confident to teach than they had before. The reasons for this varied (see Chapter 7(B)4). One ward sister felt she had a better appreciation of the level of information which students needed. Some staff felt that their own knowledge/practice had been confirmed by the content of the package (Enrolled Nurses) whilst others had gained a rationale for aspects of their practice which they did not understand before (Enrolled Nurses, some Staff Nurses). Some staff had gained some quite new knowledge (Enrolled Nurses, Staff Nurses). These last two findings would support those of Lamond (1974) who found that some ward staff were afraid to teach because they were not sure of their subject.

Shuldham (1986) and Orme and Trickett (1983) both found that ward sisters perceived their needs for continuing education in clinical practice to be more important than those of management or teaching skills which would appear to indicate that some qualified staff were not totally confident about their clinical knowledge. Shuldham (1986) found that sisters specifically indicated the need to keep up to date clinically which would further suggest that they were somewhat lacking in confidence.

Both the clinical staff and the teachers in my study felt that the structure offered by the learning objectives/package formed a basis for their own teaching and therefore made it easier. This would support work by Lewin and Leach (1982) and Orton (1979) that sisters on 'good' wards were likely to have formulated ward objectives and were likely to have written them down for the students to consult. The structure which the package gave to the learner was also mentioned frequently by them and is seen as one of the major advantages of the system.

The fact that the ward staff and the teachers were relieved of repeating basic information for each group of learners was also commented upon. This meant that the teaching which did
take place was at a higher level than before which made it more interesting and stimulating for the teacher (whether ward staff or educational staff).

The other factor which influenced the interchange between the teachers and the learners in my study was the fact that the learners asked more questions and therefore a rapport with the trained staff was built up more quickly. It would appear that as a result of their improved knowledge and understanding they too were more confident and consequently were more likely to question the qualified staff. Generally the students did not complain that they were not being taught anything in the wards as they had done before the project was introduced. Because of this the qualified staff lost their feeling of guilt about not teaching as much as they would have liked.

Together all these factors enriched the whole teaching/learning milieu which generally became more informal and less didactic (see Chapter 7(B)4 and 7(C)1(i).

These appear to be particularly important findings and ones which as far as I can ascertain are not reported elsewhere in the research literature. This is most likely due to the fact that very few, if any, projects using distance/self-directed learning have been carried out before in clinical areas.

The implications of all these findings are considerable. Although they do not in any way undermine evidence produced by Bryant (1985), Farnish (1985), Lathlean (1984), Pearson (1978), Reid (1985) and Shuldham (1986) that there is an urgent need for better preparation for ward sisters and other senior nursing staff for their role as teachers, they do indicate that by setting up schemes of self-directed learning in the clinical areas the general teaching/learning milieu is likely to improve automatically. By creating a structure for learning (in the form of a learning package) which is based on the needs of the patients and consequently the learners in any particular clinical area, an environment will emerge...
where the knowledge, understanding and confidence of both the learners and the qualified staff will improve.

These findings also imply that self-directed learning materials would be particularly useful in fulfilling the continuing educational needs of the qualified staff for clinical knowledge (Shuldham (1986) and Orme and Trickett (1983)). If more specific learning resources were ward-based they could play a useful part in orientation and updating programmes. Palank (1982) supports these findings and specifically advocates the use of self-directed learning packages for use in the orientation of new personnel, and Cooper (1982) makes the following statement in relation to continuing education:

"The rapid changes and increasing complexities of nursing practice lead one to the conclusion that formal, organised continuing education opportunities will never keep pace with the learning needs of practising nurses. Thus it seems likely that more nurses will need to become self-directed learners to keep pace with existing trends."

(p 39)

The findings from my study indicate that the same materials which are used for learners could also be used for orientation programmes of new personnel and that they should probably be issued about one month after the new member of staff has started work (see Chapter 7(B)5) when they will have had time to get used to the ward/department/community.
9.5 RESEARCH QUESTIONS FOUR AND FIVE

4) What will be the effect on study habits of student and pupil nurses with varying educational backgrounds and abilities if they can learn at their own pace and at times convenient to them?

5) What will be the effect on the responsibility that student and pupil nurses show for their own education if learning is self-directed?

"Learning how to learn is at least as important, and perhaps more important than learning any given body of knowledge. It is therefore desirable for students, from the earliest stages of education, to begin to experience self-teaching and in this sense to take some responsibility for their own learning."

"Materials based learning provides a vehicle for learning how to learn."

Nathenson and Henderson (1980) (p. 15)

Whatever the outcome of the current debate concerning the number of entry gates there should be to becoming a "nurse", the range of educational backgrounds and abilities of those entering the profession will remain wide. Whatever type of educational strategy develops for nurses and whatever status the learner has within the system her time for study will be limited. It is therefore important that we help the learners to make the best use of this limited time.

As research questions four and five are both basically concerned with learners making choices about how to use both time and resources for learning I have decided to discuss them in parallel.

Although the learners in each group in this project used their time in different ways (see Chapter 8.8) the findings produced substantial and encouraging evidence to show that members of all three groups made better use of time than they had with other forms of private study (i.e. case studies, essays) (see Chapter 8.3). This would support Hogstel (1976) who found that the study habits of nurses using the Keller Plan in an introductory course changed for the better. Boud, Bridge
and Willoughby (1975) in their review of P.S.I. also state that it is probable that students on such schemes will develop different study habits and that these changes would be generally useful.

A particularly useful change which occurred in all three groups of learners in my project was that they started to study much earlier than usual (i.e. during the first few days of their ward allocation) and did not leave the work until the last few days, as they had before. This meant that they could apply theory to practice throughout the time they worked on the ward.

Once started they would continue to study more steadily, working on more occasions than before and making use of quite short periods of time. Bridge (1977) found that a similar pattern of frequent but short periods of study emerged when undergraduate students followed an individualised study course in science. In my project and the one cited by Bridge the learning materials were readily available and topic areas were broken down into small units, making it possible to make study worthwhile even if there was only a short time available.

The implications of these findings for nurses who are working shifts on busy wards are quite considerable. If resources for learning are easily available in the clinical areas and if these resources are structured in such a way that profitable results can be achieved in a short time it is much more likely that they will be used than if nurses have to rely on libraries to gain information.

Stapleton (1983) in her study of the on-going educational needs of qualified nurses makes it quite clear that the majority of nurses do not make good use of libraries partly because they are not easily available:-

"In recording the way nurses use libraries, it is apparent from the study that the libraries at the disposal of trained nurses (the same ones are also used by learners) are neither conveniently available nor do they contain material which is necessarily useful."

(p 92)
Although I did not pursue this point in my study it seems likely that both students and qualified staff may make better use of libraries if they gained more knowledge whilst working on the wards. By maintaining a state of relevant knowledge where theory is applied to practice and by placing the emphasis for learning on the students themselves it seems probable that their pursuit of knowledge from other sources may increase.

My overall findings would support those of Boud, Bridge and Willoughby (1975) that self-paced courses are particularly useful for teaching students with widely differing pre-knowledge and ability and that all grades of learners found self-pacing helpful. However, they also show how important it is for the teacher to realise that although a wide range of learners can quite successfully use the same materials they will react to them in a variety of different ways (see Chapter 8.8). Their choice about how to use both their time and the resources which are available for learning will differ. Consequently the amount of guidance and support they will need from the teacher will also differ considerably. Although in time all learners may grow in responsibility for their own education it should not be assumed that this will happen automatically just by making the materials available.

For example nearly all the University Students completed all the work in the learning package and overall spent more time on individual study than the other two groups. Generally they would progress through the work in the order it was laid out and would finish individual units quicker than the other two groups. They were much more independent in their approach to the work and although they were always pleased to see a teacher they felt they would have worked just as hard if they were left alone for the whole allocation.

At the other extreme the pupil nurses and some of the students were much more dependent on the teacher and felt that they worked much better because they were visited and supported
by the teacher. They needed to know that someone cared about them and showed an interest. Pupil nurses were likely to jump from one section of the work to the other in some cases without any particular aim and overall took longer to complete the individual units. They needed more guidance from the teacher in order to start the work and in one or two cases demonstrated considerable anxiety about the task ahead of them. However this improved considerably once they began the work.

Although undoubtedly some of these differences are due to the varying intellectual capacities of members of the three groups, there is evidence to suggest that it was also due to the varying experiences and expectations that each learner had about studying alone. The University Students had been used to more private study than the other two groups both during their last year at school and since they started nursing. The pupil nurses had been used to the least (see Tables 7A1(d) i, ii and iii).

Cooper (1982) stresses:

"...people who see themselves as successful learners have an advantage over people who doubt their ability to learn. The successful completion of one learning project helps the learner to recognise a personal capability to learn independently."

(p 38)

Due to their previous experiences the University students and some of the R.G.N. students were better able to recognise their own 'personal capability to learn independently' and therefore expected to be able to accomplish the work in the learning packages without undue effort.

My findings would therefore support the recommendations of both Alexander (1983) and Gott (1984) who stress that learner nurses need to be introduced to active participative forms of learning from the commencement of their training and more emphasis should be placed on the importance of study by tutors. As well as producing learning packages which are interesting and relevant to the practical work in the clinical areas tutors
who adopt these methods have to educate the learners to learn in order that they make the best choices about how to use the limited amount of time which they have available for study.

With changes in the general education system to make learning much more pupil-centred it is hoped that in time all new recruits entering nursing will possess advanced study skills and the ability to make the best use of available time and resources.

It is also hoped that as proposed in "Project 2000" (U.K.C.C., 1986) all learners of nursing will eventually be "supernumary" and that the total curriculum will be "educationally determined". Findings from this study suggest that under such a system students would be more able to cultivate the ability to learn independently and it is anticipated that their teachers will be better able to create an environment where this ability is not only encouraged but expected.

9.6 RESEARCH QUESTION SIX

6) What will be the effect on meeting the preferences of individual students if learning materials are provided in different forms i.e. print, audio-cassette, display boards, models? What are the implications of such a strategy for the teacher?

"The wider the range of media used in a distance learning course the greater is the proportion of students who succeed in learning effectively."

Neil (1979) (p. 102)

This is a "Statement of Principle" made at the Open Universities Tenth Anniversary International Conference. This particular statement, although endorsed by an international audience, is based mainly on research studies carried out at the Centre Audio-Visuel, Ecole Superieure de Saint-Cloud in France (LeFranc 1979), and the Tokyo Institute.
My own findings would certainly support this statement. Both as individuals and as groups learner nurses demonstrated definite preferences for using different types of media for learning (see Chapter 8.7 and 8.8). They enjoyed using a variety of media and welcomed the opportunity of choice. They felt that both these factors contributed to increasing their motivation to work and thus helped to make their learning more effective (see Chapter 8.6).

A high proportion of learners in all three groups showed a definite preference for using the tape/slide programmes and other media with a visual stimulus. As well as being particularly relevant to their practical work on the ward they found that this mode of presentation aided memory and concentration and led to better understanding.

These findings support the view of Bates (1984), (Reader in Media Research for the Open University), that -

"The introduction of audio-visual media into distance teaching widens its scope and provides alternative approaches and the variety that are essential to student motivation and deep understanding. The use of audio-visual media can help increase the quality of learning and reduce drop out."

(p 223)

Some recent neuro-physiological evidence which demonstrates the extent to which the two hemispheres of the brain specialize is also relevant to the use of visual media and lend support to my findings. It is described in an article by Gilder (1985), Director of the Audio-Visual Centre at the University of Newcastle. It has been found that verbal processing (logic and language) is dealt with by the left hemisphere of the brain and pictorial (or spacial thinking) by the right and that both hemispheres are capable of simultaneous and separate functioning. It is suggested that in order to aid understanding, more use should be made of pictures in all methods of teaching and learning. Gilder (1985) stresses that this is particularly beneficial for professionals such as doctors who depend on skills of visual recognition. This is of course equally true of nurses and other health professionals.
There are certain implications arising from the decision to use a wide range of learning materials which it seems important to mention in this section.

As I stressed in my summary the planning and production phase of my project took a very long time (see Chapter 8.4). This was mainly due to the work involved in producing the tape/slide programmes. The majority of the literature which addresses learning materials production would endorse this fact both in General (Boud, Bridge and Willoughby (1975); Black and Boud (1977); Stice (1976); Bates (1984)) and in Nursing Education (Hogstel (1976); Coutts and Cohen (1983); Logue (1984); and Norman (1983)).

Bates (1984) stresses:-

"Whenever an academic uses new technology for the first time it always takes much longer than anticipated. (A good rule is to make a maximum estimate, then multiply by three for the first time and two for the second time.)

(p 228)

It would have been quite impossible for me to carry out a project of this nature if I had not been released from about half of my teaching responsibilities.

Norman (1983) when describing the factors involved in the creation and development of Computer-Assisted Learning programmes for use in nurse education in North America states:-

"The single dominant factor in programme creation was time. A conservative estimate of the ratio between development time and programme running time in hours was 200:1. Most authors felt they needed to be released at least half time from their current responsibilities in order to write effectively."

(p 5)

Even with comparatively unsophisticated media like a tape/slide programme it is not only teacher time which is needed but also that of photographers and audio-technicians. In my own case I was fortunate to have the assistance of the staff in the Audio-Visual Aids Department at the University of Surrey but this is a luxury which would not be available to the majority of nurse-teachers. Some Health Authorities
may employ Medical Photographers or Artists and some Schools of Nursing may have well-qualified and experienced Audio-Visual Aids Technicians but this cannot be guaranteed.

Sparkes (1984) has drawn up a table to illustrate what he considers to be the number of the teachers' man hours spent in generating one hour's worth of student work for each of a variety of teaching/learning methods (see Table 9.3).

<table>
<thead>
<tr>
<th>Teaching Method</th>
<th>Ratio of academic man-hours per student-hour of work generated</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lecturing</td>
<td>2 - 10</td>
</tr>
<tr>
<td>Small group teaching</td>
<td>1 - 10</td>
</tr>
<tr>
<td>Teaching by Telephone</td>
<td>2 - 10</td>
</tr>
<tr>
<td>Video-tape Lectures (for TVI)</td>
<td>3 - 10*</td>
</tr>
<tr>
<td>Audio-vision</td>
<td>10 - 20*</td>
</tr>
<tr>
<td>Teaching Text</td>
<td>50 - 100**</td>
</tr>
<tr>
<td>Broadcast TV</td>
<td>100 or more**</td>
</tr>
<tr>
<td>Computer-Aided Learning</td>
<td>200 or more*</td>
</tr>
<tr>
<td>Interactive Video Disc</td>
<td>300 or more**</td>
</tr>
</tbody>
</table>

* Requires Support Staff
** Requires Several Support Staff

Table 9.3 Effective Use of Manpower
Sparkes (1984) (p 219)

A table of this nature would be a helpful guide to any educational institution contemplating the introduction of distance/self-directed learning into the curriculum. It would be useful not only for estimating the possible time which would be needed but also the cost. My own study demonstrates that the bulk of the initial cost in a project of this nature goes on the salaries of the staff involved (see Appendix 10). However I agree with Elton (1978) that in the long term
no easy calculations of cost are possible as the longer a course runs and the more students who benefit the cheaper it becomes.

Nevertheless I would strongly recommend that any individual or group who are planning a venture of this nature should look very carefully at the implications of both time and cost before they start work. Detailed negotiations with educational managers are essential and should include discussions concerning initial and on-going training for all teachers involved in the scheme (Elton (1984); Bates (1984); Townsend (1980)).

"The introduction of new technology in distance education requires major changes in professional roles. While it is not necessary for subject experts to become professional producers, they should be aware of the potential and limitations of various media, and how they might be used in their teaching. Acquiring this knowledge though is no mean task, and will not happen by chance. The range of media available is now becoming so wide that it is difficult for a single person to encompass the advantages and disadvantages of every medium, yet some specialised knowledge is needed to make sensible decisions. Internal training then needs to be systematically organised for those teaching at a distance."


My own study clearly demonstrates the changing role of the teacher not only in the production of the learning materials but also in relation to their organisation and administration which, once the project was underway also became very time consuming (see Chapter 7C 1(ii)). If schemes of this nature were extended to cover several areas within a hospital a need is seen for more support staff (secretaries, technicians) to relieve the teacher from organisational duties so that she/he could concentrate on their role of facilitator/counsellor. This supports the views of Gott (1984) and of Townsend (1980) who states in an article on "The learning resources movement: its relation to nurse education" that—

"....people with relevant experience in producing, organizing and administering learning resources need to be recruited."

Townsend (1980) (p 528)
The concept of moving resources for learning to the clinical areas as demonstrated in this study is fully supported by Lange (1982) and Marson (1981). This idea however has considerable implications for hospital planners. Many hospitals, even those which have been built quite recently do not have any teaching/learning areas within the clinical setting. The need is seen for what Lange (1982) terms "Decentralized Self-Learning Centres" with facilities for all the emerging technologies set in the clinical areas. It is considered that to be cost-effective this would be run on a multidisciplinary basis for use by all hospital staff and in certain circumstances, the patients.

In summary the findings from this study would strongly support the use of a variety of media in any scheme of self-directed learning in order to increase student motivation and understanding. However there is substantial evidence to suggest that no real progress will be made in the use of even moderately unsophisticated technologies in distance learning in nurse education until more recognition is given, both locally and nationally, to the full implications of teacher/technician time and overall cost of setting up and running such schemes.

The only way to make such schemes cost-effective is to establish more well equipped regional/national centres which are staffed by experts in audio-visual aids where learning materials can be produced using a variety of media. As suggested in section 9.3 of this chapter educational and clinical experts could call on these centres for expert technical help and advice and could work together to produce materials of excellence.

Until recognition is given of the need for such a strategy there is likely to be a perpetuation of small parochial schemes which will often only survive whilst their instigator is in post in order to generate enthusiasm and motivation.
9.7 RESEARCH QUESTION SEVEN

7) What will be the consequence of testing the learners on the content of the learning package at the beginning and end of each clinical placement?

The inclusion of frequent and usually quite short tests is an important component of most forms of distance learning (Keller, 1968; Boud, Bridge and Willoughby, 1975; Kulik and Jaksa, 1977; Ruskin and Ruskin, 1977).

Apart from using the pre-and post-tests in this study to assess the amount of learning which had taken place for each individual, one of the main reasons for their inclusion was to ascertain what differences, if any, occurred between the three groups of learners who took part in the project (see Chapter 5.7). I was also keen to ascertain how learners would react to being tested in the clinical areas.

As can be seen from Chapter 6.6 there were quite definite differences between the three groups in the range of marks obtained in the tests. As might be expected the University Students gained the highest score and the pupil nurses the lowest with the students coming in the middle. These findings support those of Willoughby and Boud (1973) who found that most distance learning courses contained more material than it is reasonable to expect an average or below average student to really master (see Chapter 2.3(b)4).

However the interesting point is that in spite of the wide range of marks members of all three groups in my study seemed quite happy about being tested and were generally satisfied with their results (see Chapter 6.6). This supports Keller's (1968) original work on individual methods of learning when he found that students' attitudes towards tests became more positive.

My findings have considerable implications for other teachers who may set up a similar system to the one described in this thesis. As discussed in section 9.5 of this chapter it is quite possible to use the same learning materials for
learners from a wide range of educational backgrounds and experiences. However if this is done it is very important to monitor the test results of the first few groups of learners who use the package (as described in Chapter 6.6) in order to gauge what level of attainment should be expected from each group.

This is especially necessary if the "mastery requirement" (see Chapter 2.3(b)4) is to be included in the scheme and it is necessary for learners to pass the test in order to progress to the next stage of the course/clinical placement. This may well be the case if distance learning with pre-and post-testing were introduced as part of a scheme of continuing assessment. It may then be necessary to either reduce the quantity of course material for all learners as suggested by Willoughby and Boud (1973) or to set different levels of mastery for different groups.

Another consequence of testing the learners in the clinical areas which was highlighted by my findings was that the inclusion of a post-test increased the learners' motivation/incentive to learn and led to the possibility of them gaining a feeling of accomplishment when they finished the work (see Chapter 6.6).

At a time when many learners of nursing feel dissatisfied with their training/education (see Chapter 7(A)1) these positive feelings are very important and ones which should be fostered by all those responsible for the education of nurses. Even if it were not possible to produce specific learning materials for some clinical areas for a considerable time it should be possible to administer relevant tests at the beginning and end of each clinical placement in order to help the learners to assess their own progress.
9.8 RESEARCH QUESTION EIGHT

8) What will be the effect on patient care if nurses education (in the form of distance learning packages) is geared to the specific needs of patients in each clinical area?

"If a patient is cold, if a patient is feverish, if a patient is faint, if he is sick after taking food, if he has a bed sore, it is generally the fault not of the disease, but of the nursing."

Nightingale (1980) p 2 (First published 1859)

For all those involved in the education of nurses since the establishment of the Nightingale School in 1860 (see Chapter 2.2 a i) the end result of all their endeavours was undoubtedly aimed at maintaining and where necessary improving the standard of care which nurses give to their patients. This project is no exception.

Henderson, V. (1979) states that:

"...nursing has its roots in fundamental human needs."

(p 7)

By implication the "needs" of the patient should therefore form the basis of any educational system which prepares the nurse to care for these patients. Chapters 4.4 and 5.1 illustrate how the concept of nurse education based on the "needs" of the patient was used in this project. The specific needs of the orthopaedic patients were highlighted by a representative sample of the educational and clinical staff as well as the patients themselves and used as a basis for the content of the learning package.

Having established these needs it was then necessary to decide on the nursing care which should be given to fulfil these needs and to consider the criteria which should be used to judge the standard of this care.

In September 1978 the Royal College of Nursing set up a Working Committee of eminent nurse educationalists and clinicians to undertake a study to identify indicators that can be used to measure professionally acceptable standards of nursing care. In the first report of this Committee (RCN, 1980)
the following statement is made which is helpful when setting standards for nursing care:-

"It is the view of the Working Committee that standards relating to nursing care can only be valid if set by those familiar with the values, objectives and practice of nursing care, and it is the responsibility of the nursing profession alone to agree an 'acceptable level of excellence'."

(p 12)

By adopting a "partnership" approach (Bryant, 1985) during the planning and production phase of this study (see Figure 9.4) and by involving those with "specialist" knowledge in orthopaedic nursing (see Chapter 9.2) it was possible to gain agreement on an "acceptable level of excellence" for the nursing care which was illustrated/discussed in the self-directed learning materials which I used for this study.

Figure 9.4 is a model to illustrate the potential for improving patient care by gearing nurse education (in this case in the form of self-directed learning materials) to the specific needs of the patients.

Although my data has not produced conclusive evidence that the nursing care improved substantially on the orthopaedic wards as a result of this project there are certainly indications that it had a direct influence on patient care (see Chapters 8.10 and 7(A)6). These indications have definite implications for the extended use of self-directed learning for nurses in clinical areas.

The discovery that in some cases the package was the sole source of information that the learners had about quite common aspects of patient care (eg Log Rolling, Moving Patients with Fractures, Positioning Sandbags) indicates that there can be serious "information gaps" in the present system (see Chapter 7(A)6). By issuing learning materials to all new nursing staff (learners and qualified staff) these gaps could be filled and basic levels of knowledge/understanding could be guaranteed. A possible danger with this system is that too much reliance could be placed on the learning package as a source of information and that passing on knowledge verbally
Figure 9.4 Model to Illustrate the Potential for Improving Patient Care by Gearing Nurse Education (in the form of a learning package) to the Specific Needs of the Patient.
would decline. However in my study this did not occur, in fact quite the reverse happened as discussed in section 9.3 of this chapter.

The fact that several of the qualified staff gained a clearer understanding for their own actions and in some cases even changed their practice seems particularly important (see Chapter 7(B)4). If by using self-directed learning materials for in-service and continuing education it is possible for qualified staff to highlight their own "knowledge/understanding gap" this will not only influence the nursing care they give themselves but also the care of those they "teach" by example.

The fact that some students were able to illustrate instances where the care given by some of the qualified staff fell below the standard which was illustrated in the package (see Chapter 7(A)6) adds considerable weight for using strategies such as those illustrated in Figure 9.4.

As I stressed in section 9.1 of this chapter not only may the nursing care given by the qualified staff be improved by issuing them with the learning package (the product) it may also be improved/considered in more depth by the process of helping to create and update the learning materials.

9.9 OVERALL CONCLUSION

This research project has produced substantial evidence to show that within the present system of nurse education it is both possible and desirable to use methods of self-directed learning (in the form of learning packages) for learner nurses from a wide range of educational backgrounds and experience while they are working in the clinical areas.

It was found that by using learning packages where the quality of instruction was high, where objectives were clearly stated, where the work was carefully structured, where use was made of a variety of media and where pre-and post-testing were incorporated into the system the students' study-habits and
motivation to learn improved and they were better able to apply theory to practice.

The qualified nursing staff were also found to benefit from using the same learning packages as the students, indicating that this method of learning would be suitable for in-service and continuing education. Not only did the qualified staff gain new knowledge in this way but their current knowledge and practices were confirmed which gave them more confidence to teach. The learners also gained in confidence as their knowledge base increased and as a result they asked more questions both of the qualified staff and of the nurse teachers. Consequently the whole learning/teaching milieu within the ward improved.

Evidence was also produced to indicate that the introduction of self-directed learning materials to the clinical areas had a beneficial effect on the quality of patient care.

Data collected during the planning and production stages of this study strongly emphasise the need for a partnership approach between the educational and clinical staff in a project of this nature. Not only does such an approach help to ensure that the learning materials which are produced are of a high standard and relevant to clinical practice but it also aids the acceptance of such a scheme by the clinical staff once the project is implemented.

However collaborative schemes are very time-consuming and call for careful negotiation and orchestration. A great deal of evidence was obtained to suggest that the nurse teacher responsible for setting up a similar project would need to be released at least half time from other duties in order to produce and collate the necessary learning materials within a reasonable time frame. This is especially important if, as in the case of this study, a variety of media are incorporated into the learning package, as this will necessitate a lot of extra work including seeking help and advice from audio-visual aid experts.
Once this project was operational findings from this study highlighted the changing role of the teacher in schemes of self-directed learning. The organisation and administration of the learning materials and the need to be available to individual students to give support and advice was also very time consuming and emphasised the role of the teacher as a facilitator of learning as opposed to an impartor of knowledge. It is felt important that such changes are fully understood and appreciated by educational managers as well as the teachers directly concerned with such schemes if they are to be run effectively and efficiently. Consideration may need to be given to the use of other personnel apart from teachers (e.g. secretaries, librarians and audio-visual aid technicians) if schemes of this nature are introduced on a large scale.

Initial costs are high in self-directed learning schemes and this study clearly demonstrated the need for adequate and long term budgetting.

9.10 RESEARCH METHOD RE-VISITED

Before concluding this thesis there is an important issue relating to the external validity (generalizability) of the results from this study which must be addressed. It concerns the problem of the reactive effects of the experiment itself (introducing self-directed learning to the clinical areas) on the subjects who took part or what is generally known as the "Hawthorne effect" (Roethlisberger and Dickson, 1939).

As Tuckman (1978) observes this is a common problem when investigating educational innovations:-

"Whenever an innovation or experimental intervention of any sort is tested in a real environment such as an educational system, the likelihood arises that an effect will accrue based not on the specifics of the intervention but rather on the simple fact that the experiment is being conducted."

(p 152)
In my own case it seems possible that the overall success of the project was substantially influenced by the fascination it had for the students in a situation where the tuition they had experienced previously in the clinical areas was extremely variable and often poor (see Chapters 4.5 and 7A(1)). In an environment where many of the learners who took part in this experiment were substantially disillusioned by the system under which they were being trained/educated a project of this nature was almost certainly a diversion. Not only was each individual student issued with a considerable variety of expensive learning materials to take home with them but they also had more consistent contact with a teacher than they had experienced previously in the clinical areas.

It is also likely that the attitudes of the qualified nursing staff towards the experiment were influenced by the fact that it was their wards which were chosen for the project. They were aware that a lot of time and money were being spent in the production of learning materials relevant to their clinical speciality and to some extent they undoubtedly felt privileged. Alexander (1982c) makes the following statement in relation to the educational innovation which she researched in the clinical areas (see Chapter 2.2 b(IV)):

"It must be borne in mind, of course, that in any research there may be an element of effect from the respondent's feeling special - chosen to take part in a one-off exercise - and that this may result in their being rather less critical than might be their wont."

(p 69)

My original intention was to broaden the whole experiment by repeating it in orthopaedic wards in another hospital in an attempt to strengthen external validity. Unfortunately, however, due to financial and time restraints this was not possible. Nevertheless even if the study had been extended the "Hawthorne effect" may still have been present as the subjects who might have taken part elsewhere would have been likely to 'react' to the experiment in a similar way.

However, in a small qualitative study like the one I have described in this thesis although the results are limited to
the wards which were investigated and it is possible that some of them are due to the reactive effect of the experiment itself. There are still strong grounds for believing that they have wide implications. The research method which was used was carefully constructed to ensure internal validity and reliability (see Chapter 3) and the findings are generally consistent with other research reports on distance learning both in general and nursing education as well as those which consider the problems of relating theory to practice in nursing education (see sections 2-8 of this chapter).

In the final section of this chapter the recommendations from this study will therefore be viewed alongside those from other studies which have aimed to improve/enrich the learning environment for student nurses within the clinical areas. A case will be made for the urgent utilisation of all these recommendations in order to alleviate some of the problems which face us in nursing education in the nineteen nineties.

9.11 IDEAL CLINICAL SUPPORT

As we move towards the final decade of this century the threat of the 'demographic timebomb' to those in the labour market who seek to recruit well-educated eighteen-year-olds is very grave. Nursing is in this position. When the number of eighteen-year-olds reaches its lowest point in 1995 under the present system there will be a shortfall of 3,000 entrants to nurse training and in cumulative terms by the end of the century this would represent 10,000 qualified staff. If 'Project 2000' was introduced the shortfall would be far greater and by 1995 would stand at 16,000 (U.K.C.C. February 1987).

Attracting the right quality and quantity of recruits to nursing is not the only problem. Another vital issue is how to retain the students we do manage to recruit. The current wastage figures stand at 21% per annum for those in training and 10% for those who are already qualified (U.K.C.C., February 1987).
Although an improved system of education is not the only solution to these problems it is certainly one which would contribute substantially towards attracting the right calibre of recruit and to an even greater extent would help to prevent wastage.

Figure 9.5 is a model to represent the recommendations from a group of research studies (including my own) which have investigated ways of improving educational support for the student (and pupil) nurse whilst they are working in the clinical areas.

The students in the centre of the model are represented as being supernumary as recommended by U.K.C.C. (May, 1986). The numbers in each clinical area are small enough for them to be well supported by the qualified staff who are available, i.e. the 'optimum number' (Reid, 1983). The qualified ward staff, who are represented at the base of the triangle in Figure 9.5 have been well prepared for their role as teachers/educational facilitators (Fretwell, 1982; Lathlean, 1984; Bryant, 1985) and the Ward Sisters are experienced and well qualified (Lewin and Leach, 1982; Reid, 1983).

The nurse teachers who are represented on the left hand side of the triangle work together with the ward staff on educational strategies thus improving the learning environment within the clinical areas (Orton, 1979; Alexander, 1983; Bryant, 1985; Hollingworth, 1985; Wickenden, 1987) and helping them to gain a better understanding of each other's roles in relation to the nurse learners. The nurse teachers (some of whom will have joint-appointments) (Gott, 1984) also teach the learners in the clinical areas and are clinically credible in the eyes of the ward staff (Reid, 1983; Hollingworth, 1985).

Resources for self-directed learning, as described in this study, will also be available in the clinical areas for use by both the nurse learners and the qualified staff (Marson, 1981; Wickenden, 1987). These resources are
Figure 9.5 Model to Represent the Ideal Learning Environment for Student Nurses in the Clinical Areas Based on Recent Research Studies 1980-1987

NURSE TEACHERS

1) Work together with Ward Staff on educational strategies. (Orton, 1979; Alexander, 1983; Bryant, 1985; Fretwell, 1985; Wickenden, 1987)

2) Clinically credible (Reid, 1983; Hollingworth, 1985)

3) Joint-Appointments (Gott, 1984; Reid, 1985)

STUDENTS

1) Supernumary Status (U.K.C.C., 1986)

2) Optimum Number (Reid, 1983)

QUALIFIED NURSING STAFF ON THE WARDS

1) Work together with Nurse Teachers on Educational Strategies (Orton, 1979; Alexander, 1983; Bryant, 1985; Fretwell, 1985; Wickenden, 1987)

2) Mandatory Preparation for Role as Teacher/Educational Facilitator (Fretwell, 1982; Lathlean, 1984; Bryant, 1985)

3) Experienced, well qualified Ward Sisters (Lewin and Leach, 1982; Reid, 1983)

RESOURCES FOR SELF-DIRECTED LEARNING

(Learning Packages)

Available in the Clinical Areas for Students and Qualified Staff. (Marson, 1981; Wickenden, 1987)
represent on the right hand side of the model in Figure 9.5 and complete the triangle of ideal educational support for learner nurses in the clinical areas.

Although a great deal of time, effort, enthusiasm, determination and in some cases extra funding are needed in order to attain such an ideal environment those responsible for the education of the nurse of the future cannot afford to be complacent. They cannot afford to ignore these research recommendations which point the way to an improved future.

The education of nurses has always deserved the best, it now demands the best in order to survive in an ever decreasing pool of potential students.

"Properly educated health professionals are not a sophisticated optional extra, but an essential pre-requisite to efficient, effective health care."

U.K.C.C. (November 1986) (p 2)

9.12 RECOMMENDATIONS

1) In order to improve the relationship between theory and practice in nurse education to enhance the general learning milieu within the clinical areas and to encourage the students to become more responsible for their own learning, schemes of individualised (self-directed) learning should be made available in all clinical areas both within the hospital and the community.

2) In order to create a structure in which self-directed learning materials of a high standard, using a variety of media can be produced and organised in a cost-effective manner a need is seen for the following:-

a) An extension of Regional and National Centres within the Health Service for the production, reproduction, collation and cataloguing of self-directed learning materials. Nurses with specialist knowledge should be released from
their duties on a part-time basis to advise on the content and standard of these programmes. Technical expertise should be available at these centres for use by all disciplines within the Health Service.

b) An extension of the training/education of Nurse Teachers in all aspects of individualised learning (planning, production, organisation, evaluation) both in initial teacher training courses and as continuing/refresher courses.

c) An increase in the numbers of support staff in Schools/Colleges of Nursing (Secretarial Staff, Audio-Visual Aid Technicians, Librarians) in order to operate and organise these schemes effectively.

d) Hospitals and Health Centres which are planned to provide space for the storage and operation of learning materials using a variety of media (computers, video-tapes, tape/slides etc). In order to be more cost-effective these resource centres should be available to all members of the caring professions who work in the area. There should be pooling of educational budgets from all the disciplines concerned (Nurse Education Centres, Post-Graduate Medical Centres, Medical Schools and Schools for Paramedicals) in order to finance such ventures.

3) In order that the content of the learning packages reflect a high standard of nursing care and to ensure that it is up to date and portrays current clinical practices it is recommended:-

a) That a partnership approach is adopted in the choice and production of the learning materials between nurse educationalists and practitioners who are experts in their field.

b) That any visual representations (slides, video-tapes, illustrations) are made in the real life situation using the staff/equipment who/which would be there normally.
c) That advice/help is sought from other members of the caring professions (doctors, paramedical staff) who have specialist knowledge/experience in the topic portrayed in the learning package. It is also considered useful to gain the opinions of the patients concerned.

4) In order that the preferences of individual learners may be met and to increase interest and motivation to learn, where possible a variety of media should be included in the learning packages.

5) In order that student and pupil nurses working on busy wards/departments can make constructive use of the learning materials even if they only have a small amount of time available, the work in the learning packages should be broken down into small, carefully structured and self-contained units.

6) In order that both the students and their teachers can assess how much learning has taken place and to increase the students' motivation to work a test relevant to the content of the learning package should be given at the beginning and end of each clinical allocation.

7) In order to encourage student nurses to become "successful independent learners" who can make the best use of individualised learning materials a need is seen for:

   a) Supernumary status for nurse learners.

   b) An increase in the use of student-centred methods of learning/teaching in schools and colleges of nursing.

8) In order to explore the circumstances surrounding the use of self-directed learning in a variety of other clinical areas (apart from orthopaedic wards) both within hospitals and the community it is suggested that further research needs to be undertaken. As the use of multi-media is both expensive and time consuming to produce it would be particularly useful to ascertain if student learning and motivation is reduced by only using printed materials.
A need is also seen for further research into the effect on:-

a) the total curriculum;
b) tutor, student ratios;
c) the use of other resources for learning i.e. libraries, nursing journals, students' own text books; if self-directed/distance learning is used more extensively in the clinical areas.
## Student Nurse Training Programme

### Unit 5. Trauma

#### Theoretical Content of Introductory Week

**Orthopaedics and Orthopaedic Nursing**

<table>
<thead>
<tr>
<th>Topic</th>
<th>Number of Sessions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Locomotor System. General Introduction: Skeleton and Muscles</td>
<td>2</td>
</tr>
<tr>
<td>Structure and Growth of Bone</td>
<td></td>
</tr>
<tr>
<td>Healing of Fractures</td>
<td></td>
</tr>
<tr>
<td>Common Fractures and their Treatment</td>
<td>1</td>
</tr>
<tr>
<td>Methods of Immobilising Fractures to include plasters and traction</td>
<td>2</td>
</tr>
<tr>
<td>Nursing Care – to include visit to Orthopaedic Wards</td>
<td></td>
</tr>
<tr>
<td>Arthritis. Medical Aspects. Rehabilitation</td>
<td>1</td>
</tr>
<tr>
<td>Arthritis. Surgical Treatment</td>
<td>1</td>
</tr>
<tr>
<td>Planning Nursing Care for Patients having Joint Replacements</td>
<td>1</td>
</tr>
<tr>
<td>Shock - Types and Treatment</td>
<td>1</td>
</tr>
<tr>
<td>Head Injuries - Causes, Types, Treatment</td>
<td>1</td>
</tr>
<tr>
<td>Nursing Care</td>
<td></td>
</tr>
</tbody>
</table>

1 Session = 1 Hour

---

**APPENDIX 1**

---

**Student Nurse Training Programme**

**Unit 5. Trauma**

**Theoretical Content of Introductory Week**

**Orthopaedics and Orthopaedic Nursing**

<table>
<thead>
<tr>
<th>Topic</th>
<th>Number of Sessions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Locomotor System. General Introduction: Skeleton and Muscles</td>
<td>2</td>
</tr>
<tr>
<td>Structure and Growth of Bone</td>
<td></td>
</tr>
<tr>
<td>Healing of Fractures</td>
<td></td>
</tr>
<tr>
<td>Common Fractures and their Treatment</td>
<td>1</td>
</tr>
<tr>
<td>Methods of Immobilising Fractures to include plasters and traction</td>
<td>2</td>
</tr>
<tr>
<td>Nursing Care – to include visit to Orthopaedic Wards</td>
<td></td>
</tr>
<tr>
<td>Arthritis. Medical Aspects. Rehabilitation</td>
<td>1</td>
</tr>
<tr>
<td>Arthritis. Surgical Treatment</td>
<td>1</td>
</tr>
<tr>
<td>Planning Nursing Care for Patients having Joint Replacements</td>
<td>1</td>
</tr>
<tr>
<td>Shock - Types and Treatment</td>
<td>1</td>
</tr>
<tr>
<td>Head Injuries - Causes, Types, Treatment</td>
<td>1</td>
</tr>
<tr>
<td>Nursing Care</td>
<td></td>
</tr>
</tbody>
</table>

1 Session = 1 Hour

---
# Unit 5 Introduction

<table>
<thead>
<tr>
<th>TIME</th>
<th>MONDAY</th>
<th>TUESDAY</th>
<th>WEDNESDAY</th>
<th>THURSDAY</th>
<th>FRIDAY</th>
</tr>
</thead>
<tbody>
<tr>
<td>9 - 10</td>
<td>Introduction to Unit</td>
<td>Arthritis. Medical</td>
<td>Major Disaster</td>
<td>Poisoning and</td>
<td>Renal Failure and Dialysis.</td>
</tr>
<tr>
<td></td>
<td>9.30 Allocation Officer</td>
<td>Aspects. Rehabilitation</td>
<td>Procedure</td>
<td>Overdoses</td>
<td>V.C.R. The Kidney</td>
</tr>
<tr>
<td>10.0 -</td>
<td>C</td>
<td>F</td>
<td>E</td>
<td>E</td>
<td></td>
</tr>
<tr>
<td>10.30</td>
<td>Osteoarthritis and Surgical</td>
<td>Chest Surgery/ Trauma,</td>
<td>Head Injuries</td>
<td>Revision and</td>
<td></td>
</tr>
<tr>
<td>11.30 -</td>
<td>Treatment</td>
<td>U.W.S.D. Tracheostomy</td>
<td></td>
<td>Practical Exercise</td>
<td></td>
</tr>
<tr>
<td>11.30 -</td>
<td>Development.</td>
<td>Assisted Ventilation</td>
<td>The Role of</td>
<td>First Aid.</td>
<td></td>
</tr>
<tr>
<td>12.30 -</td>
<td>Healing of Fractures</td>
<td></td>
<td>the Physiotherapist</td>
<td>Film: &quot;Wounds &amp;</td>
<td></td>
</tr>
<tr>
<td>1.30 -</td>
<td></td>
<td></td>
<td>in I.T.U.</td>
<td>Bleeding&quot;</td>
<td></td>
</tr>
<tr>
<td>1.30</td>
<td>Uniform</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.30 -</td>
<td>Planning Nursing Care of</td>
<td>Visit</td>
<td>Introduction</td>
<td>Discussion:</td>
<td></td>
</tr>
<tr>
<td>3.30</td>
<td>Patients with Joint</td>
<td>Mount Browne</td>
<td>to Clinical Areas</td>
<td>Policies relating to</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Replacement</td>
<td></td>
<td></td>
<td>the Trauma Unit</td>
<td></td>
</tr>
<tr>
<td>3.30 -</td>
<td>Methods of Immobilising</td>
<td>Police Headquarters</td>
<td>I.T.U.</td>
<td>V.C.R. &quot;Role of the</td>
<td>Preparation Interblock Work.</td>
</tr>
<tr>
<td>4.30</td>
<td>Fractures.</td>
<td>Casualty Burea</td>
<td>Theatre</td>
<td>Nurse in Accident &amp;</td>
<td>Study Days</td>
</tr>
<tr>
<td></td>
<td>Traction. Traction.</td>
<td></td>
<td>Accident Centre</td>
<td>Emergency&quot;</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Plasters.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.30 -</td>
<td>Nursing Care. Clinical</td>
<td>&quot;</td>
<td>V.C.R. &quot;Role of the</td>
<td>A. &amp; E. Staff</td>
<td></td>
</tr>
<tr>
<td>4.30</td>
<td>Visit if possible</td>
<td></td>
<td>Nurse in Theatre&quot;</td>
<td>demonstrate</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>bandaging</td>
<td></td>
</tr>
</tbody>
</table>

*INTERVIEWS THROUGHOUT THE WEEK*
Pupil Nurse Training Programme
Unit 4. Trauma and Night Duty

Theoretical Content of Introductory Week
Orthopaedics and Orthopaedic Nursing

<table>
<thead>
<tr>
<th>Topic</th>
<th>Number of Sessions</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Skeleton - Bones</td>
<td>1</td>
</tr>
<tr>
<td>Joints, Muscles</td>
<td>1</td>
</tr>
<tr>
<td>The Spine</td>
<td>1</td>
</tr>
<tr>
<td>Introduction to Trauma - causes, background</td>
<td>1</td>
</tr>
<tr>
<td>Arthritis - medical and surgical aspects</td>
<td>1</td>
</tr>
<tr>
<td>Nursing care of patients having joint replacements</td>
<td>1</td>
</tr>
<tr>
<td>Care of patients having amputations</td>
<td>1</td>
</tr>
<tr>
<td>Fractures - causes, types, treatments</td>
<td></td>
</tr>
<tr>
<td>Nursing care of patients in plasters</td>
<td>3</td>
</tr>
<tr>
<td>or on traction to include a visit to the Orthopaedic Wards</td>
<td></td>
</tr>
<tr>
<td>Head Injuries - causes, types and treatment</td>
<td>1</td>
</tr>
<tr>
<td>Shock - types and treatment</td>
<td>1</td>
</tr>
<tr>
<td>Management of multiple injuries</td>
<td>1</td>
</tr>
<tr>
<td>Effect of emergency admissions on patients and relatives</td>
<td>1</td>
</tr>
<tr>
<td>Preparation for night duty</td>
<td>1</td>
</tr>
<tr>
<td>Care of patients during the night</td>
<td>1</td>
</tr>
</tbody>
</table>

1 session = 1 hour
<table>
<thead>
<tr>
<th>TIME</th>
<th>MONDAY</th>
<th>TUESDAY</th>
<th>WEDNESDAY</th>
<th>THURSDAY</th>
<th>FRIDAY</th>
</tr>
</thead>
<tbody>
<tr>
<td>9 - 10</td>
<td>Introduction to Trauma Causes and background</td>
<td>The Spine</td>
<td>Role of Nurse in Theatre + Video</td>
<td>The kidney + Video</td>
<td>R.S.C.H. Principles of Thoracic Surgery</td>
</tr>
<tr>
<td>10.0 - 10.30</td>
<td>C</td>
<td>O</td>
<td>F</td>
<td>E</td>
<td>E</td>
</tr>
<tr>
<td>12.30 - 1.30</td>
<td>L</td>
<td>U</td>
<td>N</td>
<td>C</td>
<td>H</td>
</tr>
<tr>
<td>1.30 - 2.30</td>
<td>Arthritis</td>
<td>Ward visit Fractures Types Causes</td>
<td>Care of long and short term unconscious patient</td>
<td>Central Venous Pressure</td>
<td>Care of the patient during the night</td>
</tr>
<tr>
<td>2.30 - 3.30</td>
<td>Care of patient with joint replacement</td>
<td>Principles of treatment</td>
<td>Head Injuries</td>
<td>Role of Nurse in I.T.U + Video</td>
<td></td>
</tr>
<tr>
<td>3.30 - 4.30</td>
<td>Amputations</td>
<td>Care of patient with ventilatory problems</td>
<td>Ethics Prolonging Life in Transplant</td>
<td></td>
<td>Preparation for night duty</td>
</tr>
</tbody>
</table>
APPENDIX 3

Interview Schedules Used in the Preliminary Phase of the Project

1. For Trained Staff and Teachers

University of Surrey. Department of Human Biology and Health
and The Institute of Educational Technology:-

Research Project:- Self Directed Learning in Nurse Education

Questions which I may ask you during our discussion:-

1) From your point of view:-
   a) What special information relating to the care of orthopaedic patients do the student and pupil nurses need to have before coming to the ward?
   b) What special needs do you think orthopaedic patients have that the student and pupil nurses may not have come across before in other areas of the hospital?
   c) What special knowledge, skills and attitudes relating to the care of orthopaedic patients do students and pupil nurses need to acquire while working on the ward?

2) Do you attempt to help the student and pupil nurses to learn in any way at present?

3) In what ways do you think we can help student/pupil nurses to learn more effectively while they are working on the orthopaedic wards?

   Thank you. Ann Wickenden. Nurse Teacher/ Research Officer

2. For Student and Pupil Nurses

University of Surrey. Department of Human Biology and Health
and The Institute of Educational Technology:-

Research Project:- Self Directed Learning in Nurse Education

Questions which I may ask you during our discussion:-

1) What specific information concerning the orthopaedic wards do you think the student and pupil nurses need before they start work on the ward?

2) What special needs do you think the orthopaedic patients have?

3) What knowledge, skills and attitudes do you think the student/pupil nurses need to acquire while working on the ward?

4) How do students/pupils learn while they are working on the wards? Are there any ways you think we could improve the present system?

   Thank you. Ann Wickenden. Nurse Teacher/ Research Officer
3) For Patients
University of Surrey

Department of Human Biology and Health and The Institute of Educational Technology

Research Project: Self Directed Learning in Nurse Education

I am interested in discussing the particular needs which you feel you have had while you have been a patient in hospital.

The following list may help you to consider these needs in some sort of order:

Physical Needs:
- Adequate and attractive food
- Sleep
- Freedom from pain and discomfort
- Clean: Skin, Hair, Nails, Teeth
- Ability to empty bowels and bladder

Psychological and Emotional Needs:
- Understanding concerning your condition
- Knowledge of your condition and progress and the effect it may have on your future
- Freedom from: Fear, Embarrassment, Boredom, Worry, Loneliness
- Independence

Thank you.  Ann Wickenden  Nurse Teacher/Research Officer
<table>
<thead>
<tr>
<th>INDEX</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introduction to Study/Guide Work Book</td>
<td>1</td>
</tr>
<tr>
<td>Ward Profile</td>
<td>2</td>
</tr>
<tr>
<td>Information Concerning the Ward Layout and Personnel</td>
<td>4</td>
</tr>
<tr>
<td>Time Table of Ward Activities</td>
<td>6</td>
</tr>
<tr>
<td>Orthopaedic Terminology</td>
<td>7</td>
</tr>
<tr>
<td>Contents of Holdalls Issued to Students and Pupil Nurses</td>
<td>10</td>
</tr>
<tr>
<td>Work Sheet for use with &quot;Anatomy and Physiology. A Self Instructional Course. Locomotor System and Special Senses&quot;</td>
<td>11</td>
</tr>
<tr>
<td>Contents of Above Text. Locomotor System</td>
<td>12</td>
</tr>
<tr>
<td>Test 1. Locomotor System</td>
<td>13</td>
</tr>
<tr>
<td>Test 2. Locomotor System</td>
<td>14</td>
</tr>
<tr>
<td>Test 3. Locomotor System</td>
<td>15</td>
</tr>
<tr>
<td>Test 4. Locomotor System</td>
<td>16</td>
</tr>
<tr>
<td>Post Test. Locomotor System</td>
<td>17/18</td>
</tr>
<tr>
<td>Work Sheet for use with &quot;Hip Joint. A Programmed Text&quot;</td>
<td>19</td>
</tr>
<tr>
<td>Work Sheet for use with &quot;Healing of Fractures. A Programmed Text</td>
<td>23</td>
</tr>
<tr>
<td>How to use the Tape/Slide Programmes Provided in your Holdalls</td>
<td>29</td>
</tr>
<tr>
<td>Work Sheets for use with Tape/Slide Programmes</td>
<td></td>
</tr>
<tr>
<td>Lifting, Moving and Positioning Orthopaedic Patients</td>
<td></td>
</tr>
<tr>
<td>Part I. General Introduction and Use of Lifting Aids</td>
<td>30</td>
</tr>
<tr>
<td>Part IIa. Following Surgery to the Hip Joint. Introduction and Total Hip Replacements</td>
<td>32</td>
</tr>
<tr>
<td>Part IIb. Following Fractures of the Upper End of the Femur</td>
<td>35</td>
</tr>
<tr>
<td>Part IIIb. Patients on Traction. Introduction. Types and Uses of Traction. Detail - Skin Traction</td>
<td>39</td>
</tr>
<tr>
<td>Part IIIb. Patients on Traction. Detail Skeletal Traction. Conclusions of Theory</td>
<td>42</td>
</tr>
<tr>
<td>Part IIIc. Lifting, Moving and Positioning Patients with Traction Applied to the Legs</td>
<td>44</td>
</tr>
<tr>
<td>Part IV. Patients with Back Problems</td>
<td>46</td>
</tr>
<tr>
<td>Details of Learning Materials Which are Kept Centrally in the Instructors Room, Level C</td>
<td>50</td>
</tr>
<tr>
<td>Display Board in Instructors Room, Level C.</td>
<td>52</td>
</tr>
<tr>
<td>Display Board Showing Implants Which are Commonly Used in Orthopaedics.</td>
<td>53</td>
</tr>
<tr>
<td>Description of Implants and Details of Journal Articles Giving Further Information</td>
<td>53</td>
</tr>
<tr>
<td>Record of Patients you have Nursed Who Have Had Orthopaedic Implants Inserted</td>
<td>62</td>
</tr>
<tr>
<td>Details of Books and Journals Relevant to Orthopaedics Which are Available in Local Libraries</td>
<td>66</td>
</tr>
</tbody>
</table>
During the time you are gaining experience on the Orthopaedic Wards you will be issued with a selection of individualised learning materials which should help to give you a sound theoretical base for certain aspects of your nursing practice.

This study guide/work book explains how you should use these learning materials, together with others which are kept centrally in the Instructors Room on Level C. Several sections of the book are laid out as work sheets to use with the learning materials (tape-slide programmes, programmed texts, display board) so that you will have a permanent record of the work you have done.

A Tutor or Clinical Teacher will visit you regularly to see how you are getting on with the work and to give you individual advice and help when necessary.

It is hoped that you will enjoy learning in this way and find it helpful, instructive and relevant to your nursing practice.

ANN WICKENDEN
Nurse Tutor/Research Officer.
WARD PROFILE

Both the orthopaedic wards at the Hospital care for patients with the same types of problems. Some patients have an orthopaedic condition for which surgery or in-patient treatment is considered beneficial. Others will be admitted as emergencies following accidents which have caused trauma primarily to the locomotor system, though often injuries are multiple.

Adults of both sexes and all ages are nursed on these wards. However, compared with the other general wards you will care for a higher proportion of younger patients, particularly men, in these areas. This is due to the fact that this group are those most likely to be involved in road traffic or occupational accidents. The older trauma patients tend to be mainly women and have sustained fractures particularly of the hip due to falls or other minor accidents. The majority of patients admitted from the waiting list are middle-aged or elderly. Many of them will be having joint replacements for osteoarthrosis or rheumatoid arthritis while some will undergo surgery to the back or limbs for a variety of other orthopaedic conditions.

Orthopaedic surgery is now very sophisticated and calls for precision of the highest order. To give your patients expert care you will need to understand the basic theories behind the different surgical techniques and the subsequent nursing care. As well as surgery other orthopaedic treatments such as traction, plasters and splints are used which you will not have met before in the general wards. Again specialised knowledge and skills are needed to care for patients being treated by these methods.

The healing of bone and the rehabilitation of patients with damaged limbs is a slow process. Patients are therefore in hospital much longer than in the general wards and consequently have special needs associated with long term bed rest and immobility. As well as meticulous and regular physical care these patients have particular psychological and social needs which call for a great deal of understanding and careful handling by all members of the caring team.

The younger patients who at first may be very frightened and upset by their accidents, injuries and pain may later have bouts of anger, frustration or depression. This may be due to boredom or the thought of a possible change of life style or loss of employment if injuries are permanent. In some cases members of the family or friends have also been injured and sometimes killed in road traffic accidents and there may also be legal problems to contend with. On the other hand once over the initial shock of the accident many of the younger patients feel generally well and often exhibit high spirits which you may not have encountered before in patients elsewhere in the hospital.
Most patients having joint replacements and other planned surgery will be able to lead a far more comfortable and independent life following the operation and therefore their morale is usually high. However some of the older patients with fractures may no longer be able to be entirely independent and care for themselves after their accident and may consequently become apathetic and depressed. This lack of independence often means that patients have to stay in an acute hospital ward longer than is necessary while arrangements are being made for their care elsewhere. Both the patient and their families need a lot of help and support in making these long term plans for the future.

The care of all these patients is very much a team responsibility. As well as the nurses and doctors the occupational therapists, physiotherapist, dietician and the social worker are all very important members of this team.

The occupational therapists work a lot in the ward assessing the patient's ability to perform the skills of daily living, for example, dressing, bathing and feeding and where necessary providing and explaining aids which will help these activities. On some afternoons the occupational therapist makes visits with the patients to their own homes to assess how they will cope on discharge and to advise on any special arrangements or adaptations which will need to be made. It is also their responsibility to make and fit femoral and tibial braces, collars and hand or foot splints and advise on their use.

Physiotherapy is an extremely important part of the treatment for orthopaedic patients and every day this is carried out extensively on the wards. Those of you on day duty will be working very much alongside the physiotherapists so do try to observe as many of their sessions as possible and ask if you do not understand the reasons for the various treatments. Correct lifting, moving and positioning of patients is very important in orthopaedics so do ask for advice from the physiotherapists as well as the senior nursing staff if you do not know the best way to do these procedures.

The social worker is often in the ward talking to patients, relatives and staff to help with the large amount of social, psychological and emotional problems which the patient and their families are likely to have. She is always willing to explain her role and to answer any questions you may have concerning your patients' social welfare.

The nutritional needs of patients who have suffered trauma to the bones and tissues cannot be over emphasised and consequently the dietician is often on the wards advising on this aspect of the patient's care.

All members of the permanent staff are very willing to help you to learn so ask questions and do not miss any opportunities.

Though often heavy work caring for orthopaedic patients is particularly rewarding as this is an area of the hospital where you really get to know the patients and their families well and can therefore gain a greater understanding of their needs and problems.
Orthopaedic Wards  Level C

Information Concerning the Ward Layout and Personnel

X Ward

28 Beds Male and Female
Rooms 1, 6, 7 and 8 have 6 beds.
Rooms 2 and 5 have 1 bed.
Rooms 3 and 4 Isolation Rooms.
Day Room.

Consultants

Clinical Nurse Specialist

Y Ward

30 Beds Male and Female
Rooms 1 and 12 have 6 beds
Rooms 2 and 3 have 5 beds
Isolation Rooms 2
Rooms 8 and 9 have 1 bed
Rooms 10 and 11 have 2 beds

Ward Sisters

It is suggested that you fill in the names of the personnel who hold the following positions during the time that you work on the ward.

Occupational Therapist: Nurse Tutor:

Physiotherapists: Clinical Teacher:

Social Worker: University Tutor:

Dietician:

NURSES IN TRAINING

Two-Year S.E.N. Course

Unit IV Night Duty - 8 weeks in second year of training - 2-3 pupils on each ward. First week spent on day duty.
Three-Year S.R.N. Course

Unit V Day Duty - 4 weeks in second year of training - 2-3 students on each ward.

Four Year Nursing Degree Course, BSc and SRN

First Year Students - Thursdays only (during term time) - 2-3 students per ward.
Second Year Students - Fridays only (during term time) - 2-3 students per ward.
First and Second Year Students will also do some one or two week blocks to either introduce or consolidate their experience.
Third Year Students - Autumn and Spring Terms 4 days per week for 4-6 week periods - 1 student per ward.

OPPORTUNITIES FOR GENERAL NURSING COUNCIL WARD BASED ASSESSMENTS

S.R.N. Students Parts A, B or C + D if students return in their final year.
S.E.N. Pupils Surgical Assessment.
<table>
<thead>
<tr>
<th>Time</th>
<th>Operating Sessions</th>
<th>Ward Rounds</th>
<th>Out-Patient Clinics R.S.C.H.</th>
<th>Other Activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>A.M.</td>
<td></td>
<td></td>
<td>Mr A (Fracture Clinic)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Mr B (General Orthopaedics)</td>
<td></td>
</tr>
<tr>
<td>P.M.</td>
<td>Mr C</td>
<td></td>
<td></td>
<td>Case Conference* 4.30pm</td>
</tr>
<tr>
<td>A.M.</td>
<td>Mr C (alternate)</td>
<td>Mr D</td>
<td>Mr A (General Orthopaedics)</td>
<td></td>
</tr>
<tr>
<td>P.M.</td>
<td>Mr A</td>
<td></td>
<td>Mr D (Fracture Clinic)</td>
<td>Case Conference* 4pm</td>
</tr>
<tr>
<td>A.M.</td>
<td>Mr B</td>
<td>10.30am</td>
<td>Mr D (Fracture Clinic)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Mr A</td>
<td></td>
<td></td>
</tr>
<tr>
<td>P.M.</td>
<td>Mr A</td>
<td></td>
<td>Mr B Each 1. Hips only)once a month 2. Children )month</td>
<td></td>
</tr>
<tr>
<td>A.M.</td>
<td>Mr B</td>
<td>11 am</td>
<td>Mr C (General Orthopaedic)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Mr C</td>
<td></td>
<td></td>
</tr>
<tr>
<td>P.M.</td>
<td>Mr D and Registrar</td>
<td></td>
<td>Mr C (General Orthopaedic)</td>
<td></td>
</tr>
<tr>
<td>A.M.</td>
<td></td>
<td></td>
<td>Mr B (Fractures)</td>
<td></td>
</tr>
<tr>
<td>P.M.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* Case Conference. General discussion of patient problems between Nurses, Physiotherapist, Occupational Therapist, Social Worker, and when possible Doctors.
ORTHOPAEDIC TERMINOLOGY

In order to help you to understand the terminology of orthopaedics, a list of common terms are listed below. Spaces have been left for you to define each of these terms in your own words. It is suggested that you do this as soon as possible after you start work on the ward.

ABDUCTION

ADDUCTION

ANKYLOSIS

ARTHritis

ARTHRODESIS

ARTHROPLASTY

ARTHROtomy

ARTHROSCOPY

CALLUS

COMMINUTED (FRACTURE)

COMPlicated (FRACTURE)

DIAPHYSIS

DISLOCATION

DORSIFLEXION

EPiphySIS

GANGLION

EVERSION
EXTENSION
FLEXION
HALLUX
INVERSION
KYPHOSIS
LORDOSIS
MALUNION
NON-UNION
OSTEOGENIC SARCOMA
OSTEOMA
OSTEOMYELITIS
OSTEOTOMY
OSTEOPHYES
PERIOSTEUM
PLANTAR FLEXION
PRONATION
SCOLIOSIS
SEQUESTRUM
Spondylitis
SUBLUXATION
TENORRHAPY
TENOSYNOVITIS

TENOTOMY

VALGUS

VARUS
CONTENTS OF HOLDALLS ISSUED TO STUDENT AND PUPIL NURSES
WHILST THEY ARE WORKING ON THE ORTHOPAEDIC WARDS.

1 Workbook/Study Guide.
1 Portable Cassette Player (Phillips or Bush).
1 Agfa Scope 200 Slide Viewer.
7 Tape/Slide Programmes in Folders as follows:

THEME: LIFTING, MOVING AND POSITIONING PATIENTS ON ORTHOPAEDIC
WARDS.

Part I General introduction and use of lifting aids.

Part II Following Surgery to the hip joint:
   a) Introduction and total Hip Replacements.
   b) Fractures of the Upper end of the Femur.

Part III a) Introduction. Types and uses of Traction.
   Detail - Skin Traction
   b) Detail - Skeletal Traction. Conclusion of Theory.
   c) Lifting, moving and positioning patients with traction
      applied to the legs.

Part IV Patients with Back Problems.

1 Femur

2 or 3 Vertebrae

½ Pelvis

1 Book "Anatomy and Physiology. A self Instructional course.
   Part 3. The Locomotor System and Special Senses".
   Ralph Rickards and David F. Chapman.

2 Programmed Texts
   a) "Healing of Fractures".
   b) "Hip Joint"

Orange/Red Folders containing recent articles on Orthopaedics and
Orthopaedic Nursing.
By the time you reach the orthopaedic wards it will most likely be some considerable time since you studied the structure and function of the Locomotor System. It is obviously very important for you to revise your knowledge of this subject whilst you are caring for patients with problems affecting their locomotor system in order to give you a better understanding of their care and treatment. This book should help you to assess how much revision you need to do and can be used in conjunction with any other anatomy and physiology book of your choice.

It is suggested that you start each section of this book by doing the relevant test. If you get any questions wrong at all you should then work through the section as well as referring to other books and then test yourself again. Copies of the tests are included in your work book so that you can write in the answers. The correct answers to the tests are in the Text Book. It would of course be ideal if you could work through all sections relating to the locomotor system but if you cannot manage this concentrate on Sections 1, 2 and 5. A copy of the contents of the book relating to the locomotor system is also included in your work book so that you can tick off the sections as you revise them.

If you enjoy using tape-slide programmes to help you to learn you may like to obtain some of the Camera Talks series of tape-slide programmes on anatomy and physiology which are kept in the Instructors Room.

The following programmes are available:

- The central nervous system
- The peripheral nervous system
- The skull
- The vertebral column
- The shoulder
- The elbow, wrist and hand
- The hip
- The knee, ankle and foot
BONES AND JOINTS
1. The main parts of the skeleton 2
2. The structure of bone 3
3. The development and growth of bone 4
4. The articulations 5

TEST ONE

ANSWERS TO TEST ONE

SKELETAL MUSCLE
1. Muscle and its action 9
2. Bursae 10
3. The structure of skeletal muscle 11
4. The nerve supply of skeletal muscle 13

TEST TWO

ANSWERS TO TEST TWO

THE AXIAL SKELETON
1. The skull 17
2. The muscles of the skull 18
3. The vertebral column 20
4. The thoracic cage 22
5. Rib movements 23
6. The abdominal muscles 24

TEST THREE

ANSWERS TO TEST THREE

THE UPPER LIMB
1. The shoulder 27
2. The forearm and hand 28

TEST FOUR

ANSWERS TO TEST FOUR

THE LOWER LIMB
1. The pelvis and hip 33
2. The knee 34
3. The lower leg and foot 35

TEST FIVE

ANSWERS TO TEST FIVE

POST TEST

ANSWERS TO POST TEST
TEST ONE

1. (a) Which cells enable the formation of new bone, structural changes in bones and the repair of injury?

(b) Where are these cells located?

2. (a) How many pairs of ribs are there?

(b) How many long bones are there between the knee and the ankle?

(c) Name two elements which are stored in bone.

3. What is the correct name for the shaft of a growing bone?

(a) Epiphysis.

(b) Diaphysis.

(c) Metaphysis.

4. Which of the statements on the right below apply to the items listed on the left?

(i) Haversian systems.  (a) The fibrous and cellular layer clothing bone.

(ii) Osteoblasts.  (b) Microscopic cylinders of bone tissue.

(iii) Periosteum.  (c) The region where bone growth occurs.

(iv) Metaphysis.  (d) Cells which lay down bone.

5. (a) At what part of a long bone does growth in length occur?

(b) What happens to the bone in adulthood that stops further bone growth?

6. (a) Name the three types of joint.

(b) Which is the most common?
1. Which of the terms on the left apply to the items on the right, in relation to simple flexion of the elbow?

(i) Origin.  
   (a) Triceps.  

(ii) Insertion.  
   (b) Shoulder muscles.  

(iii) Prime mover.  
   (c) Radius.  

(iv) Antagonist.  
   (d) Biceps.  

(v) Synergist.  
   (e) Scapula.

2. Among the following types of muscles — strap muscles, fusiform muscles, pennate muscles — one type forms an exception. Which is it and why?

3. Indicate which of the names in the list below refer to the parts of the muscle fibre labelled on the diagram alongside by placing the appropriate letters in the brackets.

1. Sarcolemma. (  )
2. End plate. (  )
3. Nucleus. (  )
4. Motor nerve. (  )
5. Myofibril. (  )

4. Place ticks in the appropriate brackets.

   (a) Sensory nerve impulses come from here.
   Muscle spindle (  ) Motor end plate (  ) Anterior horn cell (  )

   (b) Motor nerve impulses come from here.
   (  ) (  ) (  )

   (c) Motor nerve impulses go to here.
   (  ) (  ) (  )

5. On what does the strength of contraction of a muscle depend?

6. Where is the acetylcholine which causes muscle contraction stored?
TEST THREE

1. (a) What does the cranial cavity contain?
   (b) What passes through the foramen magnum?
   (c) What lies in the sella turcica?
   (d) Where are the turbinates?

2. Label six major bones seen here.
   Tick one that is part of the base of the skull.

3. (a) What is the name of this muscle?
   (b) Does it turn the head towards, or away from, itself?

4. What are the divisions of the vertebral column, and how many vertebrae are there in each division?

5. Indicate which of the names in the list below refer to the parts of the vertebra labelled on the diagram alongside by placing the appropriate letters in the brackets.
   (i) Spinal canal.  ( )
   (ii) Lamina.  ( )
   (iii) Transverse process.  ( )
   (iv) Pedicle.  ( )
   (v) Body.  ( )
1. In what actions are the following muscles used?
   (a) Brachialis muscles.
   (b) Triceps.
   (c) Deltoid muscle.
   (d) Biceps.

2. Which of the statements on the right below apply to the bones listed on the left?
   (i) The radius.
   (ii) The ulna.
   (iii) The humerus.
   (a) Has a broad upper end.
   (b) Has a narrow rounded upper end.
   (c) Has a cylindrical lower end.

3. Which muscle acts as a supinator of the hand?

4. Which bones lie in the palm?

5. (a) Name the features indicated on the diagram below.
   (b) Is this a view of the thumb side or the little finger side of the elbow (palm up)?

6. What prevents the tendons at the wrist from popping out when the wrist is bent upwards?
1. What are the main characteristics of a synovial joint?

__________________________________________________________________________

2. What is the name given to the centre of ossification at the end of a typical developing long bone?

__________________________________________________________________________

3. Which of the descriptions on the right apply to the items listed on the left?
   (i) The periosteal collar.  (a) Bone-removing cells.
   (ii) The lamellae. (b) Thin sheets of bone.
   (iii) The osteoclasts. (c) The first bone to appear on the cartilage model.

4. Give two actions of the biceps muscle.

__________________________________________________________________________

5. What are the names of the two proteins most intimately involved in muscle contraction?

__________________________________________________________________________

6. What muscle patterns are represented by the diagrams below?

   A  B  C
   (i) Pennate.
   (ii) Fusiform.
   (iii) Strap.
7. Label four major skull bones.

8. Which of the major neck muscles fulfill functions other than that of flexing the neck?

9. Which of the descriptions on the right apply to the parts of the leg listed on the left?
   (i) The hamstrings.  (a) The muscles which flex the knee.
   (ii) The menisci.  (b) Rounded projections at the end of the femur.
   (iii) The condyles.  (c) Cartilage discs between the femur and tibia.

10(a) Which two sets of muscles unite at the Achilles tendon?

   (b) Into which bone does the Achilles tendon insert?
WORK SHEET FOR USE WITH "HIP JOINT: A PROGRAMMED TEXT"

BY I. KING

You are given quite clear instructions how to use this text in the book itself. However, so that you have some permanent record of your work and so that you can write in the answers to the tests, relevant spaces have been left in this work book.

OBJECTIVES OF THIS PROGRAMMED TEXT

On completion of this programme you should be able to:

1) Name the bones taking part in the hip joint.

2) Identify on a sectional diagram of the hip joint the hyaline cartilage, synovial membrane, capsule, ligamentum teres and acetabular labrum.

3) Name the three extra-capsular ligaments and draw them in on an anterior and posterior diagram of the hip joint.

4) Explain why the hip joint is a stable joint.

Now do the following pre-test. The answers to this test are on pages 28, 29 and 30 of the programmed text. If you get 16 marks or more on the pre-test you do not need to complete the programme.

THE HIP JOINT - PRE AND POST TEST

Marks

1) The two bones taking part in the hip joint are

the .................. bone and the ..................  2

2) The innominate bone is made up of the ............... 

the .................. and the ..................  3

3) Identify and label on the following sectional diagram of the hip joint: hyaline cartilage, synovial membrane, acetabular labrum, ligamentum teres.  5

Innominate bone

FEMUR
4) Name the three extra-capsular ligaments and draw them on the anterior and posterior diagrams of the hip joint below.

RIOR ASPECT OF RIGHT HIP

POSTERIOR ASPECT OF RIGHT HIP

5) State two reasons why the hip joint is a stable joint.

Marks
6

TOTAL 18 marks
The next two pages have been left for you to use as you work through the text. As well as a pen you will need a pencil, coloured pencils, a femur and an innominate bone (the text suggests you need half a pelvis but as this is rather difficult to transport you have only been provided with an innominate bone which is quite adequate).
You are given quite clear instructions how to use this text in the book itself. However, so that you have some permanent record of your work and so that you can write in the answers to the tests, relevant spaces have been left in this work book.

Objectives of this Programmed Text

On completion of the programme you should be able to:

1. Describe, with the aid of diagrams, how callus is formed from a haematoma at the fracture site.

2. State the time usually taken for healing of fractures.

3. State the parts played in the healing of fractures by reduction, immobilization, exercise and diet.

Now do the pre-test on the next page of this work book. The answers to this test are on Page 72 of the text. If you get a score of 16 or more out of 20, this indicates that you do not need to do the programme.
1) When a fracture occurs, what immediate changes take place in the tissues surrounding it?

2) Draw labelled diagrams to illustrate the stages in the healing of a fracture:
   a) after the first 24 hours, and
   b) after a few weeks.

3) What part is played in healing by:
   a) osteoblasts and
   b) osteoclasts?
4) What is meant by the union of a fracture?

5) How long is it usually before union occurs:
   a) in the bones of the upper limb?
   b) in the bones of the lower limb?

6) What particular food factors must be included in the diet of a patient with a fracture?

7) What other factors, besides diet, affect the length of time that a fracture takes to heal?

8) What is meant by the reduction of a fracture?

9) For how long must a broken bone be immobilised?

10) What joints must be immobilised when a fractured shaft of tibia is treated?

11) What are the reasons for making a patient with a fracture exercise the injured limb?

Now check your answers with Page 72 of the Text.
THE HEALING OF FRACTURES. A PROGRAMMED TEXT.

The next two pages have been left blank for you to make notes and diagrams as you work through the text.
HOW TO USE THE TAPE/SLIDE PROGRAMMES PROVIDED IN YOUR
HOLDALLS.

It could be said that the most important practical nursing skills in orthopaedics are concerned with lifting, moving and positioning patients correctly.

For this reason a series of tape/slide programmes have been produced to help you to understand the rationale for the ways in which these skills are performed, so that you can practice them correctly during the time you are working on the wards.

To fully understand the rationale behind these skills it is necessary to describe and discuss a lot of the problems which orthopaedic patients are likely to have, together with ways in which these problems are treated and dealt with. The content of these programmes is therefore quite complex and you may like to run through them more than once to fully appreciate some of the points which are made.

There is a section in your study guide for each of these programmes at the beginning of which is a list of objectives which you should be able to attain after completing each programme.

Certain activities are incorporated into most of these programmes when you will need to stop the tape to draw or study diagrams or to copy down information. Spaces have been left in your study guide for you to do this work, but in some cases you will also need one or two of the bones which are provided in your holdalls. It will be helpful to have two different coloured pens or pencils available for all of the programmes.

Part I should be used first, but otherwise, Parts II, III and IV can be used in any order though sections a, b and c should be in the correct sequence.

HAVE FUN !
WORK SHEET FOR USE WITH TAPE/SLIDE PROGRAMMES

1. LIFTING, MOVING AND POSITIONING ORTHOPAEDIC PATIENTS.

Part I: General Introduction and Use of Lifting Aids.

Objectives.

After completing this programme you should be able to:

a) Give at least three reasons why it is important to lift, move and position orthopaedic patients correctly.

b) List the names of the four nursing specialties which research has shown are at the highest risk of back injuries through patient handling.

c) Transfer a patient safely from a bed to a chair using a Mecanaid Ambulift.

d) Lift a patient safely using slings with the D. Model Mecanaid Ambulift.

e) Operate a net bed (Mecabed) and give three reasons why these special beds may be used.

f) Operate an Egerton Mark I electric turning and tilting bed when it is empty and explain when this bed might be used.

g) Recognise a Stryker Wedge Turning Frame and give some reasons why this type of bed might be used.

h) List the basic principles which should be adhered to when lifting a patient.

Check through these objectives when you have finished the programme and where possible test yourself to see if you can attain them. If not play through the programme once more.

***************

Follow up Exercise to Part I:

Make a list below of all the lifting aids which are being used on your ward at present. Find out why they are being used and where possible ask the patients for their reactions to the ways in which they are moved and lifted:

(see next page)
<table>
<thead>
<tr>
<th>LIFTING AIDS</th>
<th>REASON FOR USE</th>
<th>PATIENTS REACTIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
WORK SHEET FOR USE WITH TAPE/SLIDE PROGRAMMES

2. LIFTING, MOVING AND POSITIONING ORTHOPAEDIC PATIENTS

Part IIa: Following Surgery to the Hip Joint

Introduction and Total Hip Replacements

For this programme, as well as a notebook and a pencil, you will need a femur and a pelvis. Before looking at this tape/slide programme, it is suggested that you study the Programmed Text "Hip Joint" by I. King, which is provided in the holdall.

Objectives

After completing this programme you should be able to:

a) Name the bones which form the hip joint.

b) Identify on a sectional diagram of the hip joint the hyaline cartilage, synovial membrane, joint capsule, ligamentum teres and acetabular labrum.

c) Name the three extra-capsular ligaments and draw them in on an anterior and posterior diagram of the hip joint.

d) Put your own hip joint through the following movements:
   - Flexion
   - Abduction
   - Circumduction
   - External Rotation
   - Extension
   - Adduction
   - Internal Rotation.

e) Describe the changes which take place in a joint due to osteoarthrosis.

f) List the main factors which pre-dispose to osteoarthrosis.

g) Describe the problems that are likely to be encountered by a patient suffering from osteoarthrosis.

h) Discuss conservative methods of treatment which may be used for a patient with osteoarthrosis.

i) Recognise the femoral and acetabular components of the Charnley and McKee-Arden hip prostheses.

j) List the main complications which may occur following an operation for total hip replacement.

k) With the help of colleagues, lift, move and position patients correctly in bed following a Charnley low friction arthroplasty.

l) With the help of a colleague get a patient out of bed following a Charnley low friction arthroplasty without flexing the hip joint. Return the patient back to bed keeping the hip joint straight.

***************
The following spaces have been left for you to copy down details from the slides:

SLIDE 13: Changes which take place in a joint due to osteoarthrosis.

SLIDE 15: Factors which pre-dispose to osteoarthrosis.

SLIDE 16: Patient's problems following osteoarthrosis.

SLIDE 18: Main principles of conservative treatment for osteoarthrosis.
Follow-up exercise to Part IIa

Choose a patient on your ward who has had a Total Hip Replacement and record the following information concerning their care:

**TYPE OF HIP REPLACEMENT:**

**POSITION WHILE IN BED:**

**POSITION WHILE IN CHAIR:**

**METHODS OF LIFTING AND MOVING:**

**OTHER NURSING PROBLEMS:**
LIFTING, MOVING AND POSITIONING ORTHOPAEDIC PATIENTS

Part IIb: Following Fractures of the Upper End of the Femur.

For this programme you will need a femur and one black and one red pen or pencil.

Objectives

After completing this programme you should be able to:

a) Draw a diagram to illustrate the blood supply to the head of the femur.

b) Draw a diagram to illustrate subcapital, transcervical and intertrochanteric fractures of the femur.

c) Define avascular necrosis.

d) Recognise an Austin Moore Femoral Prosthesis and a McLaughlin Pin and Plate.

e) Lift, move and position patients correctly following the insertion of an Austin Moore Femoral Prosthesis, giving reasons for your actions.

f) Lift, move and position patients correctly following the insertion of a McLaughlin Pin and Plate, giving reasons for your actions.

g) Get a patient with an unstable intertrochanteric fracture of the femur which has been pinned out of bed and help them to sit in a chair without weight bearing on the affected leg. (Non-weight bearing)

h) Adjust walking (Zimmer) frames to the correct height for each individual patient.
The following spaces have been left for you to copy down details from the slides:

SLIDE 7: Diagram to show the blood supply to the head of the femur:
SLIDE 9: Diagram to illustrate common areas of fracture at the upper end of the femur.
Follow up exercise to Part IIB:

As soon as possible after watching this programme find patients on your ward who have had fractures of the upper end of the femur and collect the following information:

* Where is the fracture?

* Indicate its position on a diagram:

* What caused the fracture?

* How was it treated?

* How is the patient lifted, moved and positioned?

* What other problems does the patient have?
WORK SHEET FOR USE WITH TAPE/SLIDE PROGRAMMES

4. LIFTING, MOVING AND POSITIONING PATIENTS ON ORTHOPAEDIC WARDS


Objectives

After completing this programme you should be able to:

a) Define the meaning of traction.

b) List the main reasons why traction may be applied.

c) Give an example of an instance when manual traction might be used.

d) Give examples of three different ways in which skin traction might be applied to the body.

e) Assist with the application of:
   a) adhesive skin traction
   b) non-adhesive skin traction to the legs;
   and give reasons why each stage of the two procedures are carried out.

f) Describe the specific observations which should be made and the special nursing care which should be given to patients following application of:
   a) adhesive skin traction
   b) non-adhesive skin traction (Ventfoam)

g) Describe "Gallows" (Bryant's) traction and give examples why it would be used.

h) Give an example of a situation when Cervical Halter Traction may be used.

i) List the areas of the head which should be regularly inspected for signs of pressure when cervical halter traction is applied.

j) Give an example of a situation when Pelvic-Belt traction may be used.

k) Devise a nursing care plan for a patient who has pelvic belt traction applied.
The following spaces have been left for your to copy down details from the slides:

SLIDE 6: Definition of Traction.

SLIDE 7: Reasons for application of Traction.

SLIDE 8: Different methods of applying Traction.

SLIDE 31: Picture of Daniel aged 18 months being nursed on "Gallows" traction. His mother and baby brother are by the bed.

Make a list of the problems there may be nursing a young child in this position. Include the added problems which may arise for Daniel's mother and baby brother.

SLIDE 44: Full length view of a patient with pelvic belt traction applied.

Make a list of all the problems this man may have and consider how you would plan his care:
Follow-up exercise to Part IIIa:

Collect the following details about any patient on your ward or the children's ward who has skin traction applied:

<table>
<thead>
<tr>
<th>TYPE OF SKIN TRACTION</th>
<th>REASON FOR APPLICATION</th>
<th>SPECIAL CARE NEEDED</th>
</tr>
</thead>
</table>
WORK SHEET FOR USE WITH TAPE/SLIDE PROGRAMMES

5. LIFTING, MOVING AND POSITIONING PATIENTS ON ORTHOPAEDIC WARDS.


Objectives

After completing this programme you should be able to:

a) Define skeleton traction.

b) Recognise i) a Denham Pin  
   ii) a Steinnmann's Pin.  
   iii) a Bohler Stirrup (Loop)  
   iv) Crutchfield Tongs and describe how they are used.

c) Draw a diagram to illustrate the common sites of introduction of a Denham or Steinmann Pin into the leg.

d) Describe the policy for the care of pinsites on the orthopaedic ward you worked on during your training.

e) Describe Perkin's Traction and explain the principles governing its use.

f) Define counter-traction and give examples of how it may be obtained.

g) Describe what is meant by:
   a) balanced or sliding traction:  
   b) fixed traction  
   using simple diagrams to illustrate the main points.

h) Recognise a fracture blister and explain how it is formed.

i) Recognise a Thomases' Splint and explain how and why it may be used.

j) Assist with the application of a Thomases' Splint.

k) Define suspension and explain how it is organised using an overhead frame (Balkan Beam).

l) Explain why skull traction may be used and describe the special care and observations which should be carried out concerning the Crutchfield Tongs and traction apparatus.

***************
The following spaces have been left for you to copy down details from the slides:

SLIDE 7:  Diagram to illustrate the common sites for introduction of a Denham Pin.

SLIDE 18:  Diagram to illustrate Balanced Traction.

SLIDE 47:  List of common terms relating to traction. Copy down the list and describe the terms in your own words.
WORK SHEET FOR USE WITH TAPE/SLIDE PROGRAMMES

6. LIFTING, MOVING AND POSITIONING PATIENTS ON ORTHOPAEDIC WARDS

Part IIIc) Lifting, moving and positioning patients with traction applied to the legs.

Objectives

After completing the programme you should be able to:

a) List at least six essential points of information which a nurse should know before lifting, moving or re-positioning a patient who is being nursed on traction.

b) Lift a patient who has traction applied to their legs for the treatment of a fracture, safely and with the minimum of discomfort using the assistance of at least one other nurse and paying attention to the following details:
   a) the patient's attitude to his treatment and care;
   b) any other injuries which the patient may have;
   c) the amount of help the patient is able to give himself;
   d) the maintenance of the fractured leg in the correct alignment during and after the lift;
   e) the maintenance of the correct support to the fracture during and after the lift;
   f) the positioning of the pillow under the injured leg so that the heel is free from pressure;
   g) the carrying out of strict observations of the reaction of the patient and the traction apparatus during and after the lift;
   h) the care of your own back.

c) Teach patients who have a Thomases' splint applied how to care for the leather ring at the top of their splint and how to do the correct foot and ankle exercises.

***************

The following spaces have been left for you to copy down details from the slides:

SLIDE 6: The nurse should know the answers to the following questions before attempting to lift, move or reposition a patient who is being nursed on traction:

...
SLIDE 19: Diagrams to illustrate the position of the supporting sandbag for middle and lower third fractures of the shaft of the femur.

Follow-up exercise to Part IIIc: As soon as possible after completing this programme find out the answers to the questions given in slide 6 for at least 3 patients in your ward who are being treated on traction and record them in this book for discussion with your tutor.
WORK SHEET FOR USE WITH TAPE/SLIDE PROGRAMMES

7. LIFTING, MOVING AND POSITIONING ORTHOPAEDIC PATIENTS

Part IV: Patients with Back Problems.

Objectives

After completing this programme you should be able to:

a) List the names and quote the numbers of the bones which make up the vertebral column.

b) List the common problems patients may have following injury or disease to the back (vertebral column, spinal nerves and spinal cord).

c) Draw a diagram to illustrate the segments of origin of the spinal nerves.

d) Give examples of situations when a patient may need to be "log-rolled".

e) Log-roll a patient safely keeping their backs straight throughout the procedure and be able to give reasons for all your actions.

f) Position and support a patient correctly after they have been log-rolled onto their side.

g) Teach a patient with a back problem how they should get out of bed correctly keeping their backs straight all the time.

h) Assist a patient with a back problem to get out of bed, walk and sit down in a chair and ensure that they keep their back straight all the time.

i) Describe pelvic belt traction and explain why it is used.

j) Describe the Mark I and Mark II Egerton electric turning and tilting beds (Stoke Mandeville Beds) and explain why they may be used.

k) Explain how/why patients with spinal injuries should be correctly positioned:
   a) when they are supine
   b) when they are lying on their sides.

l) Assist with the lifting, moving and positioning of patients with spinal injuries giving reasons for all your actions and observations.

m) Describe skull traction and explain why it may be used.

n) Describe the Guttman Head Traction Unit which fits the Mark II electric turning bed and explain why it is used.

(contd/....)
o) Assist with the turning and positioning of a patient who is attached to skull traction giving reasons for all your actions and observations.

p) Describe ways of helping a patient who is being nursed on skull traction to be as independent as possible.

***************

The following spaces have been left for you to copy down details from the slides:

SLIDE 4: The vertebral column. (You may like to copy details of the names and numbers of the different vertebrae).

SLIDE 7: Diagram of the segments of origin of the spinal nerves.
SLIDE 45: Patient listening to the radio while being nursed flat on an Egerton electric tilting and turning bed.

List below any nursing problems you think this lady is likely to have and be prepared to discuss them with your tutor.

Follow up exercise to Part IV:

1) As soon as possible after watching this programme carry out a nursing assessment on a patient on your ward with a problem affecting their back and produce a nursing care plan for them paying particular attention to the way they are moved and positioned.

2) You may like to follow up this programme by watching three of the tape/slide programmes which are kept centrally in the Instructors Room:

   a) Intervertebral Disc Lesions.
   
   b) The Stryker Wedge Turning Frame.
      Part I - General Description.
      Part II - Turning a Patient.
The following space is left for your nursing assessment and care plan for a patient with a back problem:
DETAILS OF LEARNING MATERIALS WHICH ARE KEPT CENTRALLY

IN THE INSTRUCTORS ROOM, LEVEL C.

As well as the learning materials which you have been issued with individually, the following are kept centrally in the Instructors Room:

1) One full sized skeleton.

2) Wall Charts:  
   a) The Skeletal System  
   b) The Muscular System

3) Models  
   a) Cervical Spine with occipital bone, spinal cord including the medulla oblongator and nerve roots. The vertebralis artery is also shown.  
   b) Dorso-Lateral Disc Displacement, showing protrusion of a nucleus pulposus (slipped disc) between the 4th and 5th Lumbar Vertebrae.

4) One Caramate Machine with earphones for use with the following tape/slide programmes:
   
   a) Aids and Adaptations in the Home (Part I).  
      A Camera Talks Production.  
      36 Slides. Time: 12 minutes.  
   
   b) Aids and Adaptations in the Home (Part II).  
      A Camera Talks Production.  
      36 Slides. Time: 15 minutes.  

THESE TWO PROGRAMMES ARE INCLUDED TO HELP YOU TO UNDERSTAND HOW PHYSICALLY HANDICAPPED PATIENTS COPE WITH DAILY LIVING ON DISCHARGE FROM HOSPITAL.

   c) Colles Fracture for Nurses.  
      Graves Medical Audio-Visual Library 77-59.  
      35 Slides. Time: 24 minutes.  
   
   d) Intervertebral Disc Lesions.  
      Oxford Educational Resources.  
      66 Slides. Time: 20 minutes.  
   
      Oxford Education Resources.  
      64 Slides. Time: 20 minutes.  
   
   f) The Stryker Wedge Turning Frame.  
      Oxford Educational Resources.  
      Part I. General Introduction. 80 slides. Time: 30 minutes.  
      Part II. Turning a Patient. 70 slides. Time: 30 minutes.

TO USE THESE TWO PROGRAMMES TO THE BEST ADVANTAGE YOU ARE ADVISED TO HAVE A STYKER WEDGE TURNING FRAME AVAILABLE SO THAT YOU CAN PRACTICE THE VARIOUS MANOEUVRES AS YOU WORK THROUGH THE PROGRAMMES.
5) Media-Packs containing the following tape/slide programmes. These may be borrowed and used away from the ward on your own cassette players and hand viewers though as there is only one copy of each they must be returned within 24 hours please.

a) **The Nervous System**
   Camera Talks Production.
   26 Slides. Time: 12 minutes.

b) **The Peripheral Nervous System**
   Camera Talks Production.
   25 Slides. Time: 10 minutes.

c) **The Skull**
   Camera Talks Production.
   24 Slides. Time: 8 minutes.

d) **The Vertebral Column**
   Camera Talks Production.
   29 Slides. Time: 10 minutes.

e) **The Shoulder**
   Camera Talks Production.
   24 Slides. Time: 10 minutes.

f) **The Elbow, Wrist and Hand.**
   Camera Talks Production.
   30 Slides. Time: 12 minutes.

g) **The Hip**
   Camera Talks Production
   22 Slides. Time: 10 minutes.

h) **The Knee, Ankle and Foot.**
   Camera Talks Production.
   39 Slides. Time: 10 minutes.

It would be helpful if you can make a record in your workbook of any of the above materials which you have used together with comments, such as:

a) Where you used the materials.

b) How long you spent using them.

c) Were you on or off duty.

d) Did you find the materials useful and relevant to your ward work? Please give a reason for your answer.
DISPLAY BOARD IN INSTRUCTORS ROOM, LEVEL C

In order to help you to understand the large variety of operations which are performed on the orthopaedic wards, many of the implant materials which are commonly used during these operations have been displayed on a board in the Instructors Room. Information explaining how and why these implants are used is given on the next few pages of this work book, together with details of Journal Articles for further reading. You have been provided with a copy of all the articles mentioned and although you may not have time to study all of them while you are working on the ward, the following are considered essential reading:

1) General Information on Fractures: Folders I and II.

2) Folder on the Hip Joint and Femur.

3) Folder on Joint Replacements.

At the end of the section explaining the use of these orthopaedic implants, 4 pages have been left for you to record details of patients you have nursed who have one of these implants inserted.
A _INTERNAL FIXATION OF FRACTURES_

In spite of the obvious risk of infection fractures are quite often treated by open reduction followed by internal fixation. It may be obvious from the start that this is the best treatment or it may only be used when closed methods fail. In recent years there have been considerable advances in the manufacture and application of internal fixation devices. A large variety of screws, plates, pins, nails, rods and wires can be used for the internal fixation of fractures. Those commonly used in this hospital are displayed on the board.

1. **Partridge Nylon Plates and Straps**

   Introduced by Mr. A.J. Partridge (Chichester Orthopaedic Surgeon) in 1976 for fixation of spiral or comminuted fractures in the femoral shaft particularly in the elderly patient.

   **Articles for further reference:**


2. **AO/ASIF Steel Plates and Screws**

   Arbeitsgemeinschaft fur Osteosynthesefragen

   or

   Swiss Association for the study of Internal Fixation

   The AO orthopaedic technique originated in Switzerland in the 1960s. The
Technique aims to achieve rigid, stable internal fixation of a fracture by means of compression. This means that some force is applied through a single crew or a plate. The advantages of AO fixation include near perfect inter-fragmentary bone compression and early mobilisation of patients. It has now become the most commonly used system of screws and plates.

Articles for further reference:
) "Basic A/O Techniques for Theatre Staff"
) "New Techniques in Orthopaedic Surgery"
   C. Sadler, Nursing Mirror, September 30th, 1981.

  Howse Screw (Mr. A.J.G. Howse F.R.C.S.)

His is a large cannulated screw used to provide a simple method of fixation for most types of fracture including femoral neck and shoulder fractures. For fractures of the femoral neck this screw can only be used if the fracture is well reduced. Two or three screws will be used which will be introduced under X-ray control.

  Leinbach Steel Screw

The most common use for this medullary screw is for a fracture of the olecranon process. Some external support should always be used in conjunction with the crew. Immobilisation in a plaster cast is common for a period not less than three weeks.

  Staples

The most common use of staples is for osteotomies particularly in the upper tibia when an osteotomy is performed for re-alignment of the leg in such problems as osteoarthritis.

Staples may also be used over the epiphyseal plate in children in order to temporarily stop growth. For example in severe cases of knock knees (genu algum) the inner side of the knee epiphyses may be stapled until the knee grows slightly varus when the staples are removed. Occasionally staples are used for fixation of fractures.

6. Hicks Radial Plate

As the name implies this plate was designed specifically for internal fixation of the radius. However, since the introduction of the A/O system of plates and screws it is rarely used.
7. Suture Wire

The most common uses of suture wire are

a) Tension band wiring of a fractured patella
b) For fixing fractures of the olecranon process
c) For holding the greater trochanter in position following its temporary removal during insertion of the femoral component of a Charnley hip replacement (see diagram on display board).

8. Vitalium Screws

The most common use of these screws is with the McGlaughlin Pin and Plate in order to fix the plate to the femoral shaft.

9. Toe Arthrodesis Wires

As the name implies these are used for arthrodesis of the toes in problems such as hammer or claw toes. Cartilage and bone are removed until the bone ends fit together with the toe straight. The wires are then inserted to hold the toe rigid. Strictly these should not be displayed in a section for internal fixation of fractures.

10. Rush Nail

Rush, L.V. Twentieth Century Mississippi Orthopaedic Surgeon
This is a solid intramedullary nail used for the internal fixation of long bones. It is used particularly in smaller bones such as the humerus where a Kuntschner Nail would be too large and also in children's bones. It is produced in various lengths the one on the display board being one of the smaller variety.

11. Kuntschner Nail

Gerhard Kuntschner a Kiel surgeon bone in 1902. First described use of nail in 1940. A long steel clover leaf rod which has a hollow stem with a slot at either end for insertion of an extraction hook when removal is required. It is used for the intramedullary fixation of fractures of long bones particularly the femoral shaft. The nail may be introduced by both open and closed methods.

Articles for further reference:-

a) Detail
"Closed Kuntschner Nailing for Comminuted Femoral Shaft Fractures".
b) Mentioned in many of the articles listed under "General Information on Fractures".

12. McGlaughlin Pin and Plate

Used mainly for Intertrochanteric Fractures of the femur. The pin or nail has four fins ending in a screw. On to this is attached a slim plate with a variable angle top. This is an advantage as the pin does not have to be inserted at a predetermined angle. The plate is fixed to the pin with a ring bolt and to the shaft with screws. The ring bolt has a nylon insert into which the thread must be cut as it is tightened and this ensures that it will not work loose later on.

Articles for further reference:
"Make or Break", Nursing Care Study of Femur Fracture in an Elderly Patient.
Elaine Godina, Nursing Mirror, September 23rd, 1981.

Contained in folder one on "General Information on Fractures". Further mention of this pin and plate is made in other articles under this heading.

B PINS FOR SKELETAL TRACTION

13. Steinmann's Pin or Nail

Fritz Steinmann a Berne surgeon born in 1872. First described his pin in 1916. A rigid stainless steel pin used for application of skeletal traction. Weight is attached to the pin by way of a Bohler (1929) stirrup which allows the direction of the traction to be varied without turning the pin in the bone. This pin is rarely used in the Guildford hospitals though is still used widely elsewhere.

14. Denham Pin

First described in 1972.
This pin is identical to the Steinmann's Pin except for a short threaded length situated towards the end held in the introducer. The threaded portion engages the boney cortex and reduces the risk of the pin sliding. The most common sites for application of skeletal traction are:

a) The upper end of the tibia behind the tibial tubercle. This site is used for fractured femoral shafts.
b) The calcaneus (os calcis) for fractures of the tibia and fibula
As well as being used for skeletal traction Denham pins are used as the basis of
the Hoffman (Raoul Hoffman, Swiss Orthopaedic Surgeon) apparatus used for external
fixation of complicated fractures.

Articles for further reference:-

a) Skeletal Traction. Mentioned in many of the articles listed under "General
information on fractures".

b) External Fixation of Fractures
   "External Fixation of Complicated Fractures", P.L. Krysehyshen and
   "Boning up on a Brace. Hoffman Apparatus", E. Crout et al., Nursing
   Mirror, October 18th, 1979.
   "An External Fixation Device for the Treatment of Fractures"
   W. Sukhtian and Jean Hughes, NAT News, April, 1979.

General Information on Fractures
Articles for further reference:-

Folder I

a) "Nursing Care Supplement, Fractures". J. Iveson-Iveson, Nursing Mirror,
   Nursing Care Supplement series 3.

b) "Fractures" Staff of Robert Jones and Agnes Hunt Orthopaedic Hospital,
   Oswestry, Salop, Nursing Mirror Supplement, December, 7th 1978.

c) "Make or Break", E. Godina, Nursing Mirror, September 23, 1981.

d) "The Use of Perkin's Traction in the treatment of Femoral Shaft Fractures".
   Perkins Traction is used very extensively in the Orthopaedic Wards in Guildford.

e) "Fractured femur, compound fracture of the tibia and fibula. A nursing

Folder II

"Fractures" Parts I, II and III. N. Rushton, Hospital Update, March, April and
May 1981.

Folder on the Hip Joint and Femur

The biggest advances in the treatment of arthritic conditions over the past two decades have been in the realm of surgery. This is particularly true in the development of an adequate total replacement for the hip joint. The term "total hip" is used to denote the fact that both surfaces of the joint are replaced, the femoral head and the acetabulam. The aim of this operation is to restore a useful range of painless movement into the affected joint.

17. Charnley Total Hip Replacement (Total Arthroplasty)

This hip replacement consists of a stainless steel femoral component with a small head and a high density polyethylene cup (HDP). A reference rim shaped in a semi-circle is incorporated around the outer circumference of the socket. This is commonly called the low friction arthroplasty (L.F.A.) because of the low wear and friction ratios of metal to plastic components. The articulating head is 2m.m.deeper than the radius of the femoral head, a precaution against the tendency to dislocation.

Both acetabular and femoral components are bonded to bone with acrylic cement. In order to meet the varying demands of the human anatomy a great range of styles and sizes are available in Charnley Hip Replacements.

18. McKee-Arden Total Hip Replacement (Total Arthroplasty)

George Kenneth McKee, Norwich Orthopaedic Surgeon.
Here the femoral component is metal but with a large head similar in design to the Thompson. The acetabular cup is also larger and composed of plastic. This design has now largely overtaken:

19. McKee-Farrar Total Hip Replacement (Total Arthroplasty)

which is made up of metal to metal components. Metal to metal prosthesis must be of the same metal otherwise corrosion by electrolysis occurs. The frictional resistance of metal-to-metal emplants is higher than metal-to-plastic.
The acrylic cement seen adhering to the femoral and acetabular components on the specimen on the display board is simply a method of securing a more exact fit - it is not a glue. If cement is inserted into the canal just before the insertion of the prosthesis, there then exists a more exact minute contact between
the interstices of the base of the canal meshing with the cement which in turn sets itself exactly to the shape of the prosthesis. The result is a transition of stresses and strain uniformly from prosthesis to bone, thereby lessening the chances of loosening.

As it sets, bone cement liberates heat that can cause tissue damage on a microscopic level. It is a foreign material widely used in orthopaedic reconstructive surgery only over the past decade. A complete understanding of its behaviour in the human body is still under study and investigation. For these reasons it is normally reserved for procedures in which it is generally indispensable for example the Charnley and McKee-Arden Hip Replacements, knee and elbow replacements.

16, 17, 19 Articles for further reference:

a) Folder on Joint Replacements:
"Two hips for old". Nursing Care Study of Bilateral Hip Arthroplasty. J. Orpwood, Nursing Mirror, August, 19th 1981.


"Revision Arthroplasty of the Hip". J.A. Fox, Nursing Times, October 30th, 1980.

b) Folder on Rheumatology Seminar
"Rheumatology Seminar. Surgery in Rheumatic Disease".
D.Y. Bulgen and B.L. Hazlemann, Hospital Update, August, 1975.

c) Folder on the Hip Joint and Femur

15 Thompson Femoral Prosthesis (Hemiarthroplasty)
This is a solid stem implant used generally with a sealing of bone cement
n the femoral shaft. The collar of this prosthesis transfers weight directly into the base of the neck and lesser trochanter of the femur. The Thompson prosthesis is used for femoral head and neck fractures where the blood supply o the head is likely to be affected. The femoral head is removed and replaced by the prosthesis.

8. Austin-Moore Femoral Prosthesis (Hemiarthroplasty)

This prosthesis has a fenestrated stem through which, it is hoped, bone will grow to secure the prosthesis. The collar is concave on the underside to accommodate the cut calcar onto which it transfers the weight. Like the Thompson prosthesis, the Austin Moore Prosthesis is used for fractures of the femoral head and neck.

5 and 18 Articles for further reference:-

These two femoral prosthesis are mentioned in many of the articles listed under General Information on Fractures" and also in the articles on "The Hip Joint and Femur", J.A. Fox, NAT News, April and May 1980.

0. Knee and Elbow Replacements

Occasionally replacements of other joints are performed:

- The Knee
  a) The Attenborough Total Knee Replacement
  b) The Deane Total Knee Replacement
  c) The Denham Total Knee Replacement

- The Elbow
  a) The Guildford Total Elbow Replacement

Illustrations of these joint replacements can be seen in the blue plastic folder attached to this board.

Artciles for further reference:-

The Attenborough Total Knee Replacement".
The Future

The ultimate duration of joint replacements being done today is not known. All studies thus far, indicate that even considering this, the spectacular results warrant the use of these exciting re-constructive procedures. Research work continues in all the areas of reconstructive orthopaedics.

S.A.W. 1983
RECORD OF PATIENTS YOU HAVE NURSED WHO HAVE HAD ORTHOPAEDIC IMPLANTS INSERTED

1) PARTRIDGE NYLON PLATES AND STRAPS

Name: Age:
Reason for use:
Special Nursing Problems:

2) AO/ASIF PLATES AND SCREWS

Name: Age:
Reason for use:
Special Nursing Problems:

3) HOWSE SCREW

4) LEINBACH STEEL SCREW

5) STAPLES

6) HICKS RADIAL PLATE

7) TOE ARTHRODESIS WIRES

8) STAPLES

9) TOE ARTHRODESIS WIRES

10) RUSH NAIL

Implant:

Name: Age:
Reason for use:
Special Nursing Problems:

These items have been grouped together as they are not used very often though you may see one or two used during your time on the ward.
Implant:

Name: Age:

Reason for use:

Special Nursing Problems:

11) KUNTSCHNER NAIL

Name: Age:

Reason for use:

Special Nursing Problems:

12) MCGLAUGHLIN PIN AND PLATE

Name: Age:

Reason for use:

Special Nursing Problems:

13) STEINMANN'S PIN OR NAIL

14) DENHAM PIN

Name: Age:

Reason for use:

Special Nursing Problems:
15) THOMPSON FEMORAL PROSTHESIS
Name: Age:
Reason for use:
Special Nursing Problems:

18) AUSTIN MOORE FEMORAL PROSTHESIS
Name: Age:
Reason for use:
Special Nursing Problems:

16) McKEE-ARDEN TOTAL HIP REPLACEMENT
Name: Age:
Reason for use:
Special Nursing Problems:
17) CHARNLEY TOTAL HIP REPLACEMENT

Name:                        Age:

Reason for use:

Special Nursing Problems:

Details of patients with other implants inserted apart from those on display:
DETAILS OF BOOKS AND JOURNALS RELEVANT TO ORTHOPAEDICS WHICH ARE AVAILABLE
IN LOCAL LIBRARIES

A large selection of both medical and nursing text books relating to orthopaedics are stocked in the Hospital and University Libraries. It will obviously be of added benefit to you if you refer to these as well as the learning materials with which you have been issued.

LIBRARY REFERENCES FOR ORTHOPAEDIC BOOKS

Nurse Education Centre Library } WE 168
Medical Centre Libraries

University of Surrey Library 617.3.

JOURNALS SPECIFIC TO ORTHOPAEDICS

Medical Centre Library

Acta Orthopaedic Scandinavica: 1977 -
Clinical Orthopaedics and Related Research: 1976 -
Injury: British Journal of Accident Surgery: 1969-72, 76 -
Journal of Bone and Joint Surgery (A and B): 1951 -
Orthopedic Clinics of North America: 1977 -

University of Surrey Library


JOURNALS WHICH SOMETIMES INCLUDE ARTICLES ON ORTHOPAEDICS

Nursing Times The British Medical Journal
Nursing Mirror The Lancet
Nursing Practitioner Hospital Update

All these Journals are available in both the Hospital and University Libraries.

Please keep a record of any text books or journals which you have used during your time on the orthopaedic wards apart from those which have been issued to you.

Textbooks: Journals:
"There are many facets to integration of theory and practice in nursing and many ways it can be facilitated or hindered, but ultimately, the actual achievement of integration is a matter for the individual student."

Margaret F Alexander, B.Sc (Soc Sc), Phd, R.G.N., S.C.M., R.N.T.

"Learning to Nurse. Integrating Theory and Practice."

Churchill/Livingstone 1983.
INDEX

PAGE(S)

1. Introduction.


3. Details of the Self-Directed Learning Materials which have been produced for Use on the Orthopaedic Wards.

4. & 5. Details of Identical Sets of Materials for Issue to students/ pupils in Holdalls.

6, 7, 8. Details of Learning Materials Kept Centrally for Use by Individuals or Groups in the Ward Areas.


* * *
INTRODUCTION

The individualised learning materials which have been produced are intended to be complementary to all other types of learning/teaching that the student and pupil nurses receive both in the School of Nursing and in the Clinical Situation.

The choice of content for the learning materials is based on extensive discussions between the clinical and teaching staff including student and pupil nurses.

The topics covered were considered to be central to the basic knowledge, skills and attitudes needed to care for patients on an orthopaedic ward and are aimed at a nurse in the second year of her training.

The same materials should be given to all learner nurses who work on the orthopaedic wards, i.e.-
- second year Pupil Nurses on Night Duty (8 weeks)
- second year Student Nurses on Day Duty (4 weeks)
- third year University Students on Day Duty (4 - 8 weeks)

As all student and pupil nurses work side by side on the wards it is felt appropriate that they should be given the opportunity to use the same learning materials and to choose those ones which they feel would help them most as individuals.

Some of the Pupil Nurses may find the Anatomy and Physiology revision to be at too great a depth in which case they should be advised to use their own text book. Otherwise it has been found that all groups of learners cope quite adequately with the remaining materials. Obviously the amount of work covered by the various groups will differ depending on the speed at which they work and the length of time they are allocated to the ward. It is important that the teacher has frequent discussion with the learners to ascertain their progress and to give help and advice when necessary.
THE AIMS OF USING INDIVISUALISED
(SELF-DIRECTED) LEARNING MATERIALS
FOR STUDENT AND PUPIL NURSES WHILE
THEY ARE WORKING IN THE CLINICAL AREAS

a) There will be a better integration of theory and practice if
    learning packages are designed to fulfil the specific needs
    of pupil and student nurses in each clinical area.

b) The needs of the student/pupil with varying educational backgrounds
    and abilities will be better met if they can learn at their own
    pace and at times convenient to them. By providing materials
    in different forms, i.e. print, audio-cassette, display boards,
    models, the preference of individual students/pupils will be
    met.

c) The permanent, qualified staff in each area (including the teachers)
    will be better able to assist student and pupil nurses with
    learning if specific objectives are identified and facilities
    for attaining these objectives are available.

d) By making the learning self-directed student and pupil nurses
    will grow in responsibility for their own education.

e) Patient care will be improved due to nurse education being
    geared to the specific needs of patients in each clinical area.
The learning materials which have been produced are for use in two different ways:-

a) For individualised issue to students/pupils/ trained staff to take away from the ward areas

Nine identical sets of materials are available which can be issued individually and can be taken home for use away from the ward areas. Holdalls are provided to transport these materials.

b) For use by individuals or groups in the ward areas.

A selection of tape/slide programmes and models are kept in a steel cupboard in the Instructors' Room. These can be used at any time in the Instructors' Room or in the ward areas. Keys to the cupboard are available on the wards and are also issued to each student/pupil during the time they are allocated to the ward.

A display board of common orthopaedic implants, anatomical charts and a skeleton are also available in the Instructors' Room for reference at any time.

A study/guide work book has been devised to issue to each student/pupil explaining how all these various learning materials should be used. Several sections of the book are laid out as work-sheets for use in conjunction with the various learning materials and also to record details of individual patients whom the students/pupils have nursed.
1. Technical Equipment

1 portable cassette player (Phillips or Bush)

1 Agfa Scope 200 Slide Viewer.

2. Tape/Slide Programmes

The central theme to these programmes is lifting, moving and positioning patients on orthopaedic wards. The programmes are divided up as follows:

Part I General introduction and use of lifting aids.

Part II Following surgery to the hip joint:
   a) Introduction and total Hip Replacements
   b) Fractures of the Upper end of the Femur.

Part III a) Introduction. Types and uses of traction.
   Detail - skin traction.
   b) Detail - Skeletal traction. Conclusion of theory.
   c) Lifting, moving and positioning patients with traction applied to the legs.

Part IV Patients with Back Problems.

3. Books

"Anatomy and Physiology. A self Instructional course.
   Part 3. The Locomotor System and Special Senses".

4. Programmed Texts
   a) "Healing and Fractures" Hull & Isaacs 1978
   b) "Hip Joint" I King. 1978
5. Articles

A selection of recent articles on orthopaedics and orthopaedic nursing from a variety of medical and nursing journals. These are bound in orange/red covers and are numbered to cross reference with the orthopaedic implants on the display board in the Instructors' Room.
DETAILS OF LEARNING MATERIALS KEPT CENTRALLY FOR USE BY INDIVIDUALS OR GROUPS IN THE WARD AREAS

A. THE FOLLOWING ARE KEPT PERMANENTLY IN THE INSTRUCTORS' ROOM ON LEVEL C AND MAY BE USED FOR REFERENCE AT ANY TIME.

1. One full sized skeleton.
2. Wall charts  
   a) The Skeletal System. 
   b) The Muscular System.
3. A display board of implants which are commonly used in Orthopaedics. A set of articles which describe/refer to these articles are kept below the board and may be borrowed by any member of staff.

B. THE FOLLOWING ARE KEPT IN THE GREY STEEL CUPBOARD IN THE INSTRUCTORS' ROOM ON LEVEL C. THEY CAN BE REMOVED FOR USE IN THE WARD AREAS OR SEMINAR ROOM.

1. Models  
   a) Cervical Spine with occipital bone, spinal cord including the medulla oblongator and nerve roots. The vertabralis artery is also shown.
   b) Dorso-Lateral Disc Displacement, showing protrusion of a nucleus pulposus (slipped disc) between the 4th and 5th Lumbar Vertebrae.

2. One Caramate Machine with earphones for use with the following tape/slide programmes:
   a) Aids and Adaptations in the Home (Part 1) 
      A Camera Talks Production. 36 slides. Time 15 minutes.
   b) Aids and Adaptations in the Home (Part 11) 
      A Camera Talks Production. 36 slides. Time : 15 minutes.
   c) Colles Fracture for Nurses.  
      Graves Medical Audio-Visual Library 77 - 59
      35 slides. Time: 24 minutes
d) Intervertebral Disc Lesions.
   Oxford Educational Resources.
   66 slides. Time 20 minutes.

   Oxford Educational Resources.
   64 slides. Time 20 minutes.

f) The Stryker Wedge Turning Frame
   Oxford Educational Resources.
   Part I: General Introduction. 80 slides time: 30 minutes.
   Part II. Turning a patient. 70 slides. time: 30 minutes

TO USE PROGRAMME f) TO THE BEST ADVANTAGE STUDENTS ARE ADVISED TO HAVE A STRYKER WEDGE TURNING FRAME AVAILABLE SO THAT THEY CAN PRACTICE THE VARIOUS MANOEUVRES AS THEY WORK THROUGH THE PROGRAMMES.

3. Media-Packs containing the following tape/slide programmes.
   These may be borrowed and used away from the ward on cassette players and hand viewers though as there is only one copy of each they must be returned within 24 hours please.

   a) The Nervous System Introduction
      Camera Talks Production
      26 slides. Time: 12 minutes.

   b) The Peripheral Nervous System
      Camera Talks Production.
      25 slides. Time: 10 minutes.

   c) The Skull
      Camera Talks Production
      24 slides. Time: 8 minutes.

   d) The Vertebral Column
      Camera Talks Production
      29 slides. Time: 10 minutes
e) The Shoulder
   Camera Talks Production
   24 slides. Time 10 minutes.

f) The Elbow, Wrist and Hand
   Camera Talks Production
   30 slides. Time: 12 minutes

g) The Hip
   Camera Talks Production.
   22 slides. Time: 10 minutes.

h) The Knee, Ankle and Foot
   Camera Talks Production
   39 slides. Time: 10 minutes.
Pre and Post Tests have been developed to use with the orthopaedic learning package. These tests are based on the content of the learning materials using the objectives as a basis.

The Pre Test
This should be given before the student/pupil nurse is issued with the learning materials to use as a diagnostic tool to assess the individual learners ability to cope with the package. The results of the test should be discussed with the learner as soon as possible and advice given as to how each individual should approach the work.

It is particularly helpful to the learner if the teacher is able to write out a list of each individual's problem areas following correction of the pre-test, indicating which section of the package contains the information they need, e.g.

Pre-test
Q.29. Position to nurse a patient following total hip replacement (Tape/slide Programme 2a)

Pre-test
Q 31 Healing of Fractures. (Programmed Text by Hull and Isaacs. 1978)

During the time that these learning materials were being monitored the range of Pre-Test scores for the three different groups of learners were as follows:-

- Pupil Nurses 42% - 66%. Mean = 54% (n 9)
- Student Nurses 48% - 88%. Mean = 64% (n 25)
- University Students 66% - 75%. Mean = 69% (n 7)

The Post Test
In order to eliminate the influence of practice and memory the Post-Test is an alternative form test. That is, it is parallel to the Pre-Test in the content and mental operations required, but the questions are different.

It should be administered as near to the end of the learners ward allocation as possible. The test should be marked immediately and the result discussed with the learner. Advice on further study can be given if necessary.

During the time that these learning materials were being monitored the
range of Post-Test scores for the three groups of learners were as follows:

Pupil Nurses 67% - 84%. Mean = 75% (n 9)
Student nurses 69% - 99%. Mean = 81% (n 25)
University Students 78% - 97%. Mean = 90% (n 7)
The Self-Directed Learning Materials

1. Pre-Test Before being issued with the materials the student/pupil is given the Pre-Test. This is then marked and discussed with them. A list is made for each learner giving details of the subject areas which they got wrong and indicating which section of the package will give them the information which they need.

Ideally this should be done the week before the learner is allocated to the ward.

2. Issue of the Work Book/Study Guide. As soon as the Pre-Test is completed the learner is issued with the work book/study guide which is explained to them. It should be stressed that the work can be approached in any order as long as individual subjects are studied in sequence (i.e. tape/slide programmes on Traction 3a, b & c). The student/pupil should be advised to spend some time at the beginning reading through the study guide to really digest what is available.

3. Issue of Learning Materials These are given to learners altogether at the beginning of their allocation. The materials are issued in a strong holdall to make them easier to transport. A full explanation should be given about how all the equipment works and the various types of learning materials should be discussed making reference to the work book/study guide.

4. Keys for the steel cupboard in the Instructors' Room are issued to each learner for the duration of their allocation. The materials which are kept centrally should be shown and explained to the learner and it should be stressed that they can be used any time of the day or night.

5. Visiting the Learners The teacher should aim to visit each learner approximately once a week for those on day duty and once every two weeks for those on night duty to discuss their progress with the self-directed learning materials and to help them with any problems.
6. **Post-Test** At the end of the learners allocation a Post-Test is given. This is marked immediately and any problem areas are discussed and advice given if there is need for further study.

7. **Collection of The Learning Materials** The students/pupils should be asked to return all the learning materials and the keys at the end of their allocation. These should then be checked before issue to the next group of learners.

8. **Collection of Work Books/Study Guides** These should be collected to assess amount, content and presentation of the learner's work. Grades may be awarded if desirable.

9. **Return of Work Books/Study Guides** Work books should be returned and discussed with the learner as soon as possible. They should be useful for revision purposes and for reference when caring for orthopaedic patients in the future.
BIBLIOGRAPHY


Firms and Institutions who were approached for information about audio-visual aids

1. Adam Rouilly London Ltd.,
   Crown Quay Lane,
   Sittingbourne, Kent, ME10 3JG.  (0795) 71378
   Produce a full range of anatomical models and charts.
   The following were purchased for the project:
   a)  Full sized skeleton and stand  P.O. 8/1
   b)  Model of cervical spine  P.O. 57
   c)  Model of dorso-lateral disc displacement  P.O. 59

2)  Audio-Visual Productions,
    Hocker Hill House,
    Chepstow, Gwent, NP6 5ER.  (02912) 5439
    Produce Tape.slides, Posters, O.H.P. Transparencies, Accessories.
    Main subjects Biology and Sociology.
    Nothing applicable to this project.

3)  Balliere's Medical Transparencies,
    Bailliere Tindall (Marketing Dept.)
    35, Red Lion Square,
    London, WC1R 4SG.
    Produce slides only. Nothing applicable to project.

4)  Banta, Biological and Nursing Teaching Aids,
    279, Church Road,
    London S.E.19 01-653 4798
    Produce Bio-viewers and Bio-sets.
    Nothing applicable to project.

5)  British Red Cross Society,
    9, Grosvenor Crescent,
    London, SW1X 7EJ 01-235 5454
    Produce "Action in an emergency posters" on first aid.
    Nothing applicable to project.

6)  Camera Talks Ltd.,
    31, North Row,
    London W1E 5EZ
    Produce a wide range of tape/slide programmes for medical and
    nursing audiences. Reasonable price.
    Hired a lot of programmes on approval.
    Only disadvantage is the cardboard surround to the slides
    which is not so durable as plastic.
    Bought the following for use in the project:
    Aids and Adaptations in the Home (Part I)
    36 slides  12 minutes
    Aids and Adaptations in the Home (Part II)
    36 slides  15 minutes
    The Nervous System
    26 slides  12 minutes
The Skull
24 slides  8 minutes

The Vertebral Column
29 slides  10 minutes

The Shoulder
24 slides  10 minutes

The Elbow, Wrist and Hand
30 slides  12 minutes

The Hip
22 slides  10 minutes

The Knee, Ankle and Foot
39 slides  10 minutes

7) Centre for Medical Education,
University of Dundee,
Dundee, DD1 4HN, Scotland

Issue a very useful quarterly newsletter relating particularly to Medical Education but also has useful information concerning nursing and general education. Ordered this newsletter.

8) Ciba Collection of Medical Illustrations,
Publicity Department,
Ciba Laboratories,
Horsham, West Sussex, RH12 4AB

Produce slides/video's on anatomy and physiology. Also produce series of beautifully illustrated books on anatomy, physiology and related pathology (The Ciba Collection).

Nothing on the Locomotor System.

9) Dundee College of Education,
Gardyne Road, Broughty Ferry,
Dundee, DD5 1NY

Produce a Basic Human Physiology Series comprised of Tapes/slides with work books.

Had workbooks of the skeleton
1) Structure  B10/9286

2) Function  B10/11726

the nervous system
1) Structure  B10/13511

on approval. These were well produced but it was too expensive to buy ten sets.

10) Department of Photography and Teaching Aids Laboratory,
University of Newcastle-on-Tyne,
Newcastle, Northumberland

Produce films and videotapes only. Nothing applicable.
11) Educational Media International,  
25, Boileau Road,  
London, W5 3AL.

Produce Tape/slide programmes. Very few medical titles.  
Mostly produced in the U.S.A. Nothing applicable.

12) Foundation for Teaching Aids at Low Cost (TALC),  
Institute of Child Health,  
30, Guildford Street,  
London WC1N 1EH.

Produce a wide range of audio/visual aids mostly for use for patient/client education in underdeveloped countries.  
Nothing applicable.

13) Gordon Audio Visual Ltd.,  
28/30 Market Place,  
Oxford Circus, London W1N 8PH.

Produce Anatomical Models, O.H.P. Transparencies.  
Nothing applicable.

14) Graves Medical Audio-Visual Library,  
Holly House,  
220, New London Road,  
Chelmsford, Essex, CM2 9BJ.

Produce a large collection of tape/slide programmes on medical and nursing topics.  
Had quite a few programmes on approval and bought:-

"Colles Fracture for Nurses" 77-59  
35 slides 24 minutes

15) Griffin and George Ltd.,  
Gerrard Biological Centre,  
Worthing Road,  
East Preston,  
West Sussex, BN16 1AS.  
(090 62) 72071

Produce a wide range of educational products primarily for schools. Have a range of anatomical models and charts which are suitable for nurse education.

Used two charts on the skeletal and muscular systems for the project (Peter Bachin Anatomical Chart Series No.8943 and 8946).

I visited the factory connected to this firm and developed a good liaison with the staff. This eventually culminated in the formation of an advice group for the firm of nurse teachers who can suggest and consider new products which can be used in nurse education.
16) Guild Sound and Vision Ltd.,
   Woodston House,
   Oundle Road,
   Peterborough, PE2 9PZ     (0733) 63122

Only produce films and videotapes. Good for management,
communications, first aid, anatomy and physiology, addictions,
child care, public health, sex education.
Nothing applicable to this project.

17) The Health Education Council,
    Resource Centre,
    78, New Oxford Street,
    London WC1A 1AH

Produce a large range of resources mainly on health education.
Nothing applicable to this project.

18) Management Games Ltd.,
    2/11 Woburn Street,
    Ampthill,
    Bedford, MK45 2HP      (0525) 404248/404860

Produce some interesting management games in a variety of
media. Useful sections for nurse management training. Nothing
applicable to this project.

19) The M.S.D. Foundation,
    Tavistock House,
    Tavistock Square,
    London WC1H 9LG      (01) 387 6881

Produce tape/slide programmes and videos on a wide range of
topics. Mainly aimed at Medical Staff. Produced a videotape
on arthritis otherwise nothing appropriate for this project.

20) Open University Educational Enterprises Ltd.,
    12, Cofferide Close,
    Stony Stratford,
    Milton Keynes, MK11 1BY. Milton Keynes 566744

Produce two catalogues giving details of all their programmes
connected with the Open University:
1)  Book/Film/Audio Catalogue
2)  Film/Vide/Audio Catalogue

Nothing applicable to this project.

21) Oxford Educational Resources Ltd.,
    197, Botley Road,
    Oxford, OX2 OHE      (0865) 41474, 49988

Produce a large range of medical and nursing programmes on
tape/slide and videotape. Had several tape/slide programmes
on approval and bought two of them:--

1)  Intervertebral Disc Lesions  
    66 slides  20 minutes

2)  The Principles of Fracture Management  
    64 slides  20 minutes
I negotiated with this firm to reproduce the tape/slide programmes which I made on "The Stryker Wedge Turning Frame". They are currently commercialising the additional seven programmes on "Lifting and moving patients in orthopaedic wards" which I produced for use with the project.

22) The Rickett Encyclopedia of Slides,
143, Chatham Road,
London, SW11 6SR
Produce a wide range of slides on medical topics.
Nothing applicable for this project.

23) Sight and Sound Series,
WB Pharmaceuticals Ltd.,
P.O. Box 23,
Bracknell, Berkshire
Produce tape/slide programmes and films on a wide range of medical topics, mainly aimed at General Practitioners. Only one relevant programme on Rheumatoid Disease. However not really suitable for this project.

24) The Slide Centre Ltd.,
143, Chatham Road,
London SW11 6SR (01) 223 3457/8/9
Produce a wide range of slides on a variety of topics.
Nothing relevant to this project. Give some useful details concerning slide viewers.

25) University of London Audio-Visual Centre,
11, Bedford Square,
London, WC1B 3RA (01) 636 3104
Have a library service for films and videotapes. Several relating to medicine but nothing applicable to this project.

26) Viewtech Audio Visual Media,
122, Goldcrest Road,
Chipping Sodbury, Bristol, BS17 6XF
Produce a wide range of Tape/slide programmes and films on many subjects. Mostly American. Level of content too young for nurse education. Give details of slide viewers and projectors.

27) Wessex Regional Library and Information Service,
Audio Visual Library,
South Academic Block,
Southampton General Hospital,
Southampton, S09 4XY Southampton 777222 ext 3764
Assistant Regional Librarian (Audio Visual Services)
Miss M. McKenna.
I had a great deal of help and advice from Miss McKenna. Wessex Regional Health Authority have an excellent Audio Visual Library Service. I borrowed a lot of tape/slide programmes for pre-view which saved having to hire them direct from the firms.
28) Wyeth Laboratories,
Huntercombe Lane South,
Taplow,
Maidenhead,
Berkshire, SL6 OPH                  Slough 28311

Produce films only. Mainly on Infant Feeding and Family Planning. Nothing applicable to this project.
Firms and organisations who provide information on hardware and packaging who were approached for their literature

1) Allen Bros (Visual Aids) Ltd.,
   43 High Street,
   Horley, Surrey (02934)2631
Provided information on charts, pegboards, magnetic boards, display panels, self adhesive letters and numerals, easles, storage boxes.

2) Argos Distributors Ltd.,
   112, Station Road,
   Edgware, Middlesex, HA8 7AQ
Provided a catalogue of all their products.
Bought their Agfascope 200 slide views at £11.96 each.
This price undercut several other firms by between £1 and £2.

3) Biddles of Guildford,
   Martyr Road,
   Guildford,
   Surrey, GU1 4LG Guildford 75247
Produce a catalogue with a whole range of office products.
Bought several items of stationery from this firm e.g. Westwood Cover Boards and Slide Binders, Slimview Display Books.

4) Boots Catalogue,
   Boots The Chemists Ltd.,
   Nottingham
Produce catalogue of all their cassette players, radios and cameras.
Bought Bush 3150 Portable Cassette Recorders here for £18.95p each.

5) Magiboards Ltd.,
   42, Wates Way,
   Willow Lane Industrial Estate,
   Mitcham,
   Surrey, CR4 4TA (01) 640 9311
Produce a catalogue of their excellent range of display and marker boards.

   Incorporates:-
   a) The National Audio-Visual Aids Centre (NAVAC),
      254, Belsize Road,
      London, NW6 4BY (01) 624 8812
   b) The National Audio-Visual Aids Library (NAVAL),
      Paxton Place,
      Gipsy Road,
      London, SE27 9SR (01) 670 4247/80
There is a permanent display at NAVAC of a wide range of audio-visual aids equipment together with a reference library and a catalogue/publication section.
The training department organises short courses on various aspects of audio-visual production and utilisation.
7) Ofrex Visual Aids,
Ofrex House,
Stephan Street,
London, W1A 1EA (01) 636 3686
Produce a catalogue of overhead projectors, office equipment and loop projectors.

8) Opsis Ltd.,
140A, London Road,
Southborough,
Tunbridge Wells,
Kent, TN4 0PJ
Produce a comprehensive catalogue of a wide range of audio-visual materials and equipment. Firms advertised include Visual Horizons, Bell and Howell, Sharp and Hama.

9) Rank Audio Visual Ltd.,
P.O. Box 70,
Great West Road,
Brentford,
Middlesex (01) 568 9222
Produce a catalogue on slide and film strip projectors.

10) Visual Aids Centre,
Matthews, Drew and Shellbourne Ltd.,
78, High Holborn,
London WC1V 6NB
Produce a catalogue giving details of a wide range of products including display boards, easels, display materials, slide containers, overhead projectors and sundries, pens and lettering aids, drawing aids and instruments, various office equipment.
They have a permanent exhibition in High Holborn which I visited.
Firms who produce orthopaedic equipment, implants and theatre instruments who were approached for literature and educational programmes

1) Egerton Hospital Equipment Ltd.,
Bromley,
Kent, BR1 3TU
(01) 460 9878/9

Sent details of their Egerton Tilting and Turning Bed which I used in the production of two of my tape/slide programmes. They did not produce any of their own teaching aids.

2) Howmedica (UK) Ltd.,
50-52 New Cavendish Street and 622, Western Avenue
London, W1M 7LE
Park Royal, London, W3 0TF
(01) 992 8044

Sent a lot of literature on a variety of orthopaedic implants. Their Regional Representative called and gave me several of their products which were used for exhibition on the Display Board.

The firm sent a free copy of the Book "The Nurse and Orthopaedic Surgery". This is a very useful teaching/learning aid.

3) Mecanaids Ltd.,
St. Catherine Street,
Gloucester, GL1 2BX
Gloucester 418451

Sent literature on the Mecabed. I used a lot of the information to make one of my own tape/slide programmes. Took one photograph from the literature to produce a slide on instructions for using the Mecabed.

4) Scholl (U.K.) Ltd.,
182-204, St. John Street,
London, EC1P 1DH
(01) 253 2030

Sent information on Ventfoam which I used when producing the tape/slide programme on application of skin traction.

5) Seton Products Ltd.,
Tubiton House,
Medlock Street,
Oldham, OL1 3HS
(061) 652 2222

Sent some useful wall posters and pamphlets. Used their poster on application of skin traction to convert into slides for one of my own tape/slide programmes (Part II(a) "Patients on Traction - Introduction").
6) Strauman (G.B.) Ltd.,
Bessemer Road,
Welwyn Garden City,
Hertfordshire, AL7 1HH (07073) 32212

Sent catalogue with information on AO/ASIF plates and screws. Very well illustrated. Some of the pictures used on the display board.

7) Stryker Corporation, British Representative
Kalamazoo,
The Surgical Service of London,
Michigan, U.S.A.
Standard House,
Banks Lane, Bexley Heath,
Kent. (01) 301 1666

Sent a catalogue with details of their Stryker wedge turning frame. They also sent an old and incomplete set of slides of this turning frame. They were very pleased when I offered to make a new tape/slide programme of this equipment and brought a new bed to the Hospital for us to photograph. Colin Pyne, the Regional Representative of Surgical Services of London, came to see me several times to discuss the production of the programme and on one occasion one of the engineers was also present. We made two tape/slide programmes as follows:

The Stryker Wedge Turning Frame

Part I. General Introduction. 80 slides 30 minutes
Part II. Turning a Patient 70 slides 30 minutes

These programmes were commercialised through Oxford Educational Resources Ltd.

8) C.F. Thackray Ltd.,
P.O. Boc 171,
Park Street,
Leeds, LS1 1RQ (0532) 442321

Sent a lot of literature mainly relating to Charnley Low Friction Hip Replacements. I used these in conjunction with the display board.

9) Zimmer-Deloro Surgical Ltd.,
Dunbeath Road,
Elgin Industrial Estate,
Swindon,
Wiltshire, SN2 6EA (0793) 481441

Sent a selection of literature mainly relating to joint replacement prosthesis. This was used in conjunction with the display board.
Application to D.H.S.S. for Research Grant
Title of Project: Self directed learning in Nurse Education
Proposed Duration of Project: 36 months
Total Support Requested: £41,584

Summary of Support Requested

<table>
<thead>
<tr>
<th>Description</th>
<th>First Year (£)</th>
<th>Second Year (£)</th>
<th>Third Year (£)</th>
<th>Total Over Period (£)</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Support for staff engaged on project</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>i) No of whole time staff (1) (Research Officer)</td>
<td>4,882</td>
<td>5,129</td>
<td>5,367</td>
<td>15,398</td>
</tr>
<tr>
<td>ii) No of part-time staff (1) (Secretarial)</td>
<td>1,104</td>
<td>1,146</td>
<td>1,187</td>
<td>3,437</td>
</tr>
<tr>
<td>Addition for superannuation, Nat. Insurance, Graduated Pensions, etc.</td>
<td>1,054</td>
<td>1,105</td>
<td>1,172</td>
<td>3,331</td>
</tr>
<tr>
<td>b) Expenses eg: Committees, Conferences, Travel, Conducting Research</td>
<td>6,670</td>
<td>6,603</td>
<td>3,540</td>
<td>16,813</td>
</tr>
<tr>
<td>c) Equipment/Apparatus Tapes/slides etc.</td>
<td>1,000</td>
<td>1,125</td>
<td>500</td>
<td>2,625</td>
</tr>
<tr>
<td>Total Support Requested</td>
<td>14,710</td>
<td>15,108</td>
<td>11,766</td>
<td>41,584</td>
</tr>
</tbody>
</table>
Details of Funding for Buying Equipment and Producing Learning Materials for Individualised Learning Package

August 1981

From The League of Friends
for full sized skeleton £357.00

January 1982

From the Teaching and Learning Methods Committee, University of Surrey £900.00

This was spent as follows:-

March 1982. Booklets from Trent Nurse Education Project : £2.00

April 1982. Cutting keys for store cupboard : £2.10

June 1982. Two Tape/Slide Programmes from Oxford Educational Resources: £127.65

July 1982. Model of Lumbar Disc Lesion
Model of Cervical Spine from Adam Rouilly : £38.24

September 1982. Journal Articles : £15.00

September 1982. Fares to Conference on Medical Education in Europe at Churchill College, Cambridge : £55.50

November 1982. 2 Cassette Recorders
Bush 3150 Portable : £37.90

2 Agfascope 200 Slide Viewers : £23.98

Equipment to Make Display Board : £2.74

Art Materials, Stationery, Stamps : £10.51

December 1982. Copyright for Music from K.P.M. Music Ltd. : £52.90

Throughout 1982/83

To A.V.A. Unit, University of Surrey for taking and developing educational slides and recording tapes. This made up 9 tape/slide programmes: £511.04

Total £900.00
December 1981
From the South West Thames Regional Nurse Training Committee - £250.00

This was spent as follows:-

March 1982. Ten tape/slide programmes from Camera Talks £187.39

April 1982. One tape/slide programme from Graves Medical Audio Visual Library £ 25.30

May 1982. Media Packs from Dunn and Wilson £ 41.65

Total £254.34

March 1983
From the Nurse Education Centre - £550.00

March 1983 Steel storage cupboard £ 68.00

April/May 1983 48 Media Packs at £2.42 each £ 96.00

486 Pages for Media Packs at 12p each £ 58.00

5 Agfascope Hand Viewers at £13.00 each £ 65.00

4 Cassette Recorders at £20.00 each £ 80.00

48 Blank Cassettes at £1.50 each £ 70.00

8 Airline Bags to hold equipment £ 32.00

Stationery:- Cover Boards £ 81.00

Slide Binders

Storage Boxes

Display Folders

Total £550.00
### December 1983

**From the General Research Fund, The Department of Human Biology and Health, University of Surrey**

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Numbering of Master Slides at £1.00 each</td>
<td>£382.00</td>
</tr>
<tr>
<td>Duplication of slides to make up 8 sets</td>
<td>£400.00</td>
</tr>
<tr>
<td>Fees to Drama Students for Narration of Tapes</td>
<td>£40.00</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>£822.00</strong></td>
</tr>
</tbody>
</table>

**Grand Total**

<table>
<thead>
<tr>
<th>Organisation</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>League of Friends</td>
<td>£357.00</td>
</tr>
<tr>
<td>Teaching and Learning Methods Committee, University of Surrey</td>
<td>£900.00</td>
</tr>
<tr>
<td>S.W. Thames Regional Nurse Training Committee</td>
<td>£254.34</td>
</tr>
<tr>
<td>Nurse Education Centre</td>
<td>£550.00</td>
</tr>
<tr>
<td>General Research Fund, Department of Human Biology and Health</td>
<td>£822.00</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>£2,883.34</strong></td>
</tr>
</tbody>
</table>
APPENDIX 11

Equipment on Loan

Equipment on loan from The Nurse Education Centre

<table>
<thead>
<tr>
<th>Description</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Caramate Machine, Ear Phones and Slide Boxes</td>
<td>£500.00</td>
</tr>
<tr>
<td>Selection of Self Instructional Texts</td>
<td>£50.00</td>
</tr>
<tr>
<td>Selection of Vertebrae</td>
<td>£30.00</td>
</tr>
<tr>
<td></td>
<td>£580.00</td>
</tr>
</tbody>
</table>

Equipment on loan from the Department of Human Biology and Health, University of Surrey

<table>
<thead>
<tr>
<th>Description</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>10 Femurs</td>
<td>£100.00</td>
</tr>
<tr>
<td>10 Innominate Bones</td>
<td>£150.00</td>
</tr>
<tr>
<td></td>
<td>£250.00</td>
</tr>
</tbody>
</table>

Approx. Cost of Materials on loan £830.00

Equipment on loan £830.00

Cost of producing own materials £2,883.00

TOTAL Cost of equipment = £3,713.00

Overall Costing of Research Project

Salaries

<table>
<thead>
<tr>
<th>Description</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Research Officer</td>
<td>£29,763.00</td>
</tr>
<tr>
<td>x 5 years part-time</td>
<td></td>
</tr>
<tr>
<td>Secretarial</td>
<td>£1,000.00 approx.</td>
</tr>
<tr>
<td>Clinical Teacher</td>
<td>£500.00 approx.</td>
</tr>
<tr>
<td>Research Officer</td>
<td>£400.00 approx.</td>
</tr>
<tr>
<td>Equipment &amp; Production Costs</td>
<td>£3,713.00</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>£35,376.00</td>
</tr>
</tbody>
</table>
Self Report Diaries

Each student and pupil nurse was given a pocket sized note book to use as a self report diary to record their learning experiences.

The instructions for using the diary were written inside the front cover as follows:

Please write down in this book details of all the learning experiences you have during the time you are allocated to the orthopaedic wards.

This should include all or any of the following:

1) Demonstrations or supervision of clinical practice which you have not seen before.

2) Discussion which help you to learn (with colleagues, trained nursing staff, doctors, physiotherapists, pharmacists, patients or their relatives).

3) Lectures of Seminars.

4) Reading (give details of books/articles).

5) Writing (Essays, Care Plans, Programmed Texts).

6) Any other experience from which you gained new knowledge, skills or attitudes.

Please date each entry and try to put some comment in the diary every day/night.

I shall try to visit you at least once a week to see how you are getting along.

Thank you for your help.

ANN WICKENDEN
Nurse Tutor/Research Officer

Students were asked to use the numbers as a code instead of writing out the heading for each section i.e.

2) Discussion 4) Reading.
APPENDIX 13

Evaluation Sheets Used in the Pilot Study:-

"Anatomy and Physiology
A Self-Instructional Course. Locomotor System and Special Senses"
Ralph Richards and David F. Chapman, Churchill Livingstone, 1978

Students/Pupils Assessment of Text

1) Which sections of this course did you study?

2) How long did each section take?

3) Did you enjoy using this work book?
   Yes          No      Please tick

4) Whichever answer you ticked in question 3 please give a reason.

5) Were any sections of this book:-
   a) Too difficult
   b) Too easy
      Please tick

   Please state which sections and give reasons.

6) Do you think it would be helpful if students/pupils had to work through this book while they were working on an orthopaedic ward?
   Yes          No      Please tick

7) Please give a reason for your answer to question 6.
8) Any other comments?

9) Type and Year of Training? Age?

Thank you.

S.A. Wickenden
Research Officer/Nurse Tutor
2. "Healing of Fractures"
   A programmed text. E.J. Hull and B. Isaacs

   Students/Pupils Assessment of Text

1) Type and Year of Training? Age?

2) How long did you take to complete this text?

3) Did you enjoy using this programmed text?
   Yes           No           Please tick

4) Whichever answer you tick please give a reason.

5) Do you think it would be helpful if students/pupils had to work through
   these books while they were working on the orthopaedic wards?
   Yes           No           Please tick

6) Please give a reason for your answer to question 5.

7) What was your score for the:-
   a) Pre-test
   b) Post-test

8) Any other comments?

Thank you.
S.A. Wickenden
Research Officer/Nurse Tutor
3. "Hip Joint"

A programmed text. I. King.

Students/Pupils Assessment of Text

1) Type and Year of Training? Age?

2) How long did it take you to complete this text?

3) Did you enjoy using this programmed text?

   Yes                       No                       Please tick

4) Whatever answer you tick please give a reason.

5) Do you think it would be helpful if students/pupils had to work through these books while they were working on the orthopaedic wards?

   Yes                       No                       Please tick

6) Please give a reason for your answer to question 5.

7) Any other comments?

8) What was your test score for the work on Page 25?

9) Please return the completed diagrams (Pages 26 and 27).

   Thank you.
   S.A. Wickenden
   Research Officer/Nurse Tutor
Name: 
Evaluation Sheets Used in the Main Study

1. "Anatomy and Physiology. A Self-Instructional Course. Locomotor System and Special Senses" by Ralph Richards and David F. Chapman 
Churchill, Livingstone, 1978

Evaluation Sheet

It would be very helpful if you could answer the following questions when you have finished using this Self-Instructional Course:

1) Please / the sections of the book which you completed

1 Bones and Joints
2 Skeletal Muscle
3 The Axial Skeleton
4 The Upper Limb
5 The Lower Limb

2) How much time did you spend working on this book?

3) a) How many different sessions did you spend working on this book?

b) Where were you when you did this work?

4) Did you use any of the following in conjunction with this book:

a) Another text book(s)? Yes No
If you answered 'yes' please give details

b) Bones or models? Yes No
If you answered 'yes' please give details

c) A tape/slide programme? Yes No
If you answered 'yes' please give details

5) Did you enjoy using this work book? Yes No

Whenever answer you give please give a reason

Thank you. Ann Wickenden
Evaluation Sheet

It would be very helpful if you could answer the following questions when you have finished working through this Programmed Text.

1) a) What was your pre-test score?

   b) What was your post-test score?

2) How long did it take you to work through this programmed text?

3) a) How many different sessions did you spend working on this book?

   b) Where were you when you did this work?

4) a) Did you enjoy using this programmed text?

   Yes

   b) Whichever answer you give please give a reason.

Thank you

Ann Wickenden
Evaluation Sheet

It would be very helpful if you could answer the following questions when you have finished working through this Programmed Text.

1) a) What was your pre-test score?
   
   b) What was your post-test score?

2) How long did it take you to work through this programmed text?

3) a) How many different sessions did you spend working on this book?
   
   b) Where were you when you did this work?

4) a) Did you enjoy using this programmed text?
   
   Yes   No

   b) Whichever answer you give please give a reason.

Thank you

Ann Wickenden
4. Evaluation Sheet for Tape/Slide Programme

Title of Programme

Name of Student

When you have finished this tape slide programme please answer the following questions:

1) In which week of your ward experience did you work through this programme?

2) How long did it take you to complete this programme?

3) How many different sessions of study did it take you to complete the programme?

4) Where were you when you worked through this programme?

5) Listed below are a number of pairs of contrasting phrases/words which might be used to describe the tape slide programme you have just used. To assess your feelings about the programme please circle one of the numbers along each scale. The closer your choice is to one end of the scale the more strongly you feel that that end best describes the programme. For example, if you feel that the programme was very closely related to the phrase/word at one end of the scale you should circle a number as follows:

   easy 1 2 3 4 5 6 7 difficult
   easy 1 2 3 4 5 6 7 difficult

If you feel that the programme is quite closely related to one or other end of the scale, you should circle either 2 or 6. If, on the other hand, it is only slightly related to one side as opposed to the other, then you should circle either 3 or 5.

You may consider that both phrases are equally associated with the programme or that the scale is completely irrelevant. In either case you should circle 4.

Please remember

1) Consider the words at both ends of the scale before you make your decision.
2) Circle one number only on a given scale.
3) Do not omit any item; be sure to circle a number for each scale.
The tape/slide programme I have just seen was:--

a) Interesting 1 2 3 4 5 6 7 boring

b) Relevant to ward work 1 2 3 4 5 6 7 not relevant to ward work

c) Difficult to understand 1 2 3 4 5 6 7 easy to understand

d) Easy to organise 1 2 3 4 5 6 7 difficult to organise

e) Muddled 1 2 3 4 5 6 7 clearly presented

f) Taught me a lot 1 2 3 4 5 6 7 taught me nothing

Using the same coding system please indicate your feelings about:--

6) The voice on the programme was:--

a) Clear 1 2 3 4 5 6 7 muffled

b) Monotonous 1 2 3 4 5 6 7 lively

c) Too fast 1 2 3 4 5 6 7 too slow

7) The pictures on the slides were:--

a) Interesting 1 2 3 4 5 6 7 boring

b) Clearly in focus 1 2 3 4 5 6 7 blurred

c) Changed too frequently 1 2 3 4 5 6 7 not changed often enough

d) Very explanatory 1 2 3 4 5 6 7 not explanatory at all
8) The activities in these programmes (copying lists and diagrams, looking at bones etc.):-

a) Added to the value of the programme 1 2 3 4 5 6 7 were a waste of time

b) Were childish 1 2 3 4 5 6 7 were a useful form of learning for an adult

c) Gave one time to assimilate facts and ideas 1 2 3 4 5 6 7 Interrupted the continuity of the programme

d) Were difficult to manipulate when using tapes and slides 1 2 3 4 5 6 7 were not too difficult to organise when using tapes and slides

e) Were enjoyable 1 2 3 4 5 6 7 were aggravating

9) Do you have any other general comments about the programme?

Thank you.
CONSENT TO PHOTOGRAPHS

I consent to photographs of ..................................................
being taken by ..........................................................

I understand that the photographs may be produced for use in professional training or publicised in journals, papers and documents associated with medical matters and research.

Signed:........................
Date:........................
Name:........................
Address:....................
................................
................................
................................
Example of a Script for a Tape/Slide Programme

University of Surrey

Department of Human Biology and Health

Production of Tape/Slide Programme for Use on an Orthopaedic Ward

Lifting, Moving and Positioning Patients on Orthopaedic Wards

Part III Patients on Traction

a) Introduction. Types and Uses of Traction. Detail - Skin Traction
b) Detail - Skeletal Traction. Conclusion of theory
c) Lifting, Moving and Positioning Patients with Traction Applied to the Legs

<table>
<thead>
<tr>
<th>Slide</th>
<th>Script</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Title</td>
<td>Lifting, Moving and Positioning Patients on Orthopaedic Wards. Music</td>
</tr>
<tr>
<td>2. Title</td>
<td>Part III Patients on Traction. Music</td>
</tr>
<tr>
<td>3. Title</td>
<td>a) Introduction. Types and Uses of Traction. Detail - Skin Traction</td>
</tr>
<tr>
<td>5. General View of the Ward</td>
<td>As well as a notebook and pencil you will need a femur and a tibia for this programme. The use of traction is very common in orthopaedics. It is impossible to work effectively on an orthopaedic ward unless you understand the principles and uses of traction. The aim of the first two parts of this programme is to introduce you to the different types of traction you may see and to explain the principles which govern their use. In the third part of this section of the programme we will consider lifting, moving and positioning patients with traction applied to their legs.</td>
</tr>
</tbody>
</table>
Let's start by defining traction. Stop the tape and write down what you think is meant by traction.

(Pause)

Here is one definition which you might like to copy down:-

6. Definition of Traction

"Traction is a steady pulling force applied to a part of the body by manual or mechanical means to overcome a pressure that is causing damage, deterioration or deformity to the bone structure or the skeletal system".

Traction may be of short duration for example when a fracture or dislocation is reduced manually under general or local anaesthetic, or traction may be prolonged when a pulling force is applied continuously over a period of days, weeks or months - this is called continuous traction.

7. List of Reasons for Applying Traction

These are the main reasons why traction may be applied:
- To realign fractured bone ends
- To realign joint surfaces which have become dislocated
- To overcome painful muscle spasm
- To correct deformity caused by shortened tendons or ligaments
- To immobilize joints
- To immobilize fractures
- To relieve weight bearing stress on a joint
- To relieve pressure on a nerve or nerve root

Stop the tape and copy down this list remembering to give it a title "Reasons for application of traction"

(Pause)

Of course traction may fulfill several of these functions at the same time. For example traction applied to a leg which is fractured will overcome muscle spasm, realign fractured bone ends and immobilize the fracture while healing of the bones and soft tissues occur.
8. Ways of Applying Traction
There are basically three different ways of applying traction to the body:
- Manual Traction
- Skin Traction
- Skeletal Traction

Manual traction is a pulling force exerted by the hands.

9. Manual Traction to a Forearm
Manual traction is only maintained for short periods, for example, in order to reduce a fracture while a plaster of Paris is applied. This slide shows the way in which manual traction would be applied to a forearm prior to application of a Plaster of Paris for a Colles' fracture. Manual traction may also be used as a temporary method of traction when moving a patient with a known or suspected fracture.

10. Skin Traction Indirect Force
When a pulling force is exerted to the body by some material applied to the patient's skin this is known as skin traction. Here the traction force is transmitted through the skin indirectly to the bone.

Skin traction is most suitable when a light or temporary pull is needed or when the traction force need not be continuous. Skin traction may be applied quite easily by the nursing staff.

The materials used to apply traction to the skin may be either adhesive or non-adhesive and may be applied to the limbs, the pelvis or the head.

11. Skin Traction Kit
We will look first at the common materials used for applying skin traction to the limbs. Here you can see two commercial packs for applying adhesive skin traction.

On the right of your picture above the notice is a small sized unopened pack suitable for a child. In the centre of the picture is an opened adult pack with the retaining bandage and clip on the left of the picture.

Working from front to back you can see the two weight carrying cords attached to a spreader plate. This
type of skin traction is made of sideways stretch strapping spread with hypo-allergic adhesive, making it ideal for use on most patients and particularly those who react to zinc oxide and rubber adhesives. A soft foam strip has been bonded to the centre of the strapping to protect the foot and ankle.

The retaining bandage has been specially designed to supply secure support without restriction and is extremely light in weight. A large range of sizes are available for children and adults.

12. Skin Extensions
Lying next to the Leg

Before applying adhesive skin traction, the limb should be checked to see that it is clean and the skin free from blemishes. If there is an abrasion, apply a dressing beneath the strapping, or cut a hole in it to accommodate the lesion. Shaving of the limb is a controversial subject. If it is shaved the skin may be damaged and in any event new hair will grow in close contact with the strapping. In women and children, shaving is usually unnecessary but it may be required for male patients with excessively hairy legs. In some centres Tincture of Benzoin is applied to the skin but must not be used with hypo-allergic strapping.

13. Holding the Foot and measuring Skin Extensions

Two people are needed to apply skin traction. One person exerts gentle steady manual traction to the limb to keep the skin on the stretch and help the strapping to stick. The foot is flexed to a right angle and the spreader plate is positioned 5 to 7 cm from the sole of the foot and at right angles to the leg. This position is maintained by holding the foam lined section of the kit over the malleoli, and supporting the toes. It is very important that the malleoli are well protected with the foam.
<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>14. Cutting the Skin</strong></td>
<td>Before removing the backing tape the strapping is measured and cut to the required length.</td>
</tr>
<tr>
<td><strong>Extensions after Measuring</strong></td>
<td></td>
</tr>
<tr>
<td><strong>15. Removing the Backing Material</strong></td>
<td>Now the backing material is being removed as the adhesive strapping is smoothed onto the skin eliminating bubbles and wrinkles. The strapping is stretched in both dimensions so that it conforms to the shape of the limb. Notice that the strapping is lying along the long axis of the body and is more towards the back of the limb than the front.</td>
</tr>
<tr>
<td><strong>16. Cutting the Extension Behind the Knee</strong></td>
<td>If full leg extensions are applied it may be necessary to make small nicks at the knee to ensure a good fit.</td>
</tr>
<tr>
<td><strong>17. Applying the Retaining Bandage</strong></td>
<td>The retaining bandage is now applied starting above the ankle with one or two secure turns. Care must be taken to avoid bandaging over the Achilles tendon which can become extremely irritated if covered.</td>
</tr>
<tr>
<td><strong>18. Full Leg Bandaged</strong></td>
<td>A diagonal or modified figure of eight method of applying the bandage gives a more even distribution of pressure. This bandage is being applied diagonally - notice how each turn overlaps the previous one by about two-thirds, and how the orange stripes are used as guidelines. When full leg extensions are applied the patella should be left free for inspection and practice of quadriceps exercises. Most authorities suggest the use of two separate bandages - one above and one below the knee.</td>
</tr>
<tr>
<td><strong>19. Traction Fully Applied</strong></td>
<td>The adhesive skin traction is now applied and weights have been attached to the traction cord. Frequent checks of sensation and circulation to the foot should be made. The bandage should be re-applied at least once a day to make sure that there is no skin reaction and to keep the bandage even and free from wrinkles. Children particularly need frequent</td>
</tr>
</tbody>
</table>
re-application of the retaining bandage as will be seen from the next few slides.

20. Mark on Skin Traction

This is Mark who is almost 4 and has a spiral fracture of the shaft of his left femur following a fall. He was treated by application of adhesive skin traction for 5 weeks. At first he wasn't too sure if he wanted to be photographed!

21. First X-Ray of Mark's Leg

This is an X-Ray of Mark's leg on the day of his accident. Note the overlapping of the fractured bone ends caused by muscle spasm and the deformity of the leg caused by the fracture itself.

22. X-Ray after 2 Months

This X-Ray was taken 2 months after Mark's accident and shows good alignment of the bone and formation of a callus. In a child this age bony union should take place on a femur after 4 or 5 weeks though consolidation of the fracture takes twice as long.

23. View of Mark from the Foot of the Bed

A maximum of 6 lbs weight was applied to Mark's leg. Notice the angle of the leg and the traction cord. The leg is in slight abduction to keep the fractured femur in alignment.

It is important that the height and position of the pulley is not altered and that the foot of the bed remains elevated so that counter traction can be provided by the boy's body. The traction angle and bed elevation are calculated by the medical staff according to the type and position of the fracture and the weight of the child.

24. Mark with Toy Farm

Actually this traction lark really isn't too bad after all with all the extra presents and visitors one gets!

25. Corinne on Gallows Traction

Corinne, who is only eight months old fell of her changing mat which was positioned on a three foot high vanity unit and sustained a green stick fracture of the lower end of her left femur. Infants under 2 or 3 can be treated by "gallows" or Bryants traction
which you see here. Adhesive skin extensions are applied to both legs which are then suspended from an overhead beam.

<table>
<thead>
<tr>
<th>Image</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>26. Full View of Corinne in Her Cot</td>
<td>Just enough weight is applied to raise the baby's buttocks clear of the mattress in order that their body will act as countertraction. Notice the suspension bar between each end of the cot and the two sets of pulleys needed to erect this type of traction. As you can see most children tolerate this type of traction very well and as their bones heal quickly it is seldom necessary to maintain Gallows Traction longer than 4 or 5 weeks. Corinne had a total of 4 lbs in weight applied for just 8 days before going home wearing a plaster hip spica for a further 3 weeks.</td>
</tr>
<tr>
<td>27. Checking Circulation to Corinne's Feet</td>
<td>As the legs are vertical when using gallows traction, it is particularly important to check that the circulation to the feet is not impaired as the nurse is doing here. Notice how Corinne is pulling at her bandages. These will have to be reapplied several times a day for a baby so young and, in fact, need reapplying now in order to cover the foam at the ankles and generally apply the bandages more evenly.</td>
</tr>
<tr>
<td>28. Newly applied Bandages</td>
<td>This illustrates how the bandages should appear when they have been applied. Notice that the first turn of the bandage around the ankle incorporates the protective foam rubber and that the bandage is applied evenly all the way up the leg.</td>
</tr>
<tr>
<td>29. Nurse looking at the Pulleys</td>
<td>Young children are, of course, very active and often twist right round on their traction. Frequent checks must be made to see that the traction cords are running correctly over the pulleys.</td>
</tr>
<tr>
<td>30. Checking the Traction Weights</td>
<td>The nurse should also check that the weights are hanging free and that the knots do not come up to the level of the pulley in which case the cord must be lengthened.</td>
</tr>
</tbody>
</table>
Daniel was also nursed on gallows traction following a fall downstairs which caused a fracture of his right femur. As Daniel is eighteen months old he is larger than Corinne and it is easier to see how his buttocks are just raised off the mattress and how his skin extensions are attached.

Gallows traction may also be used for nursing young children with burns to the buttocks in order to keep the burnt area of skin exposed and free from touching the mattress.

Stop the tape here and make a list of the problems there may be nursing a child in this position. Also consider the problems Daniel's mother and baby brother may have. They have been with him most of the time he has been in hospital.

Be prepared to discuss these problems with your tutor.

Another method of applying skin traction is by using non-adhesive bandages such as Ventfoam. This slide illustrates the special Ventfoam bandage taken out of its box on the right of your picture. This bandage is made of soft, ventilated latex foam laminated to strong cloth backing. The patterned surface of the latex foam which you can see here, gives a most efficient grip onto the skin. The skin does not need to be shaved as it may do with adhesive skin traction. Ventfoam is quick and easy to apply and can easily be removed daily to inspect and wash the skin. Also shown in this illustration is the crepe bandage used to retain the Ventfoam in position and in the front, the detachable metal spreader onto which the extension cord is attached.

Before applying the Ventfoam the protective plastic sleeve which is provided with each kit should be pulled to the centre of the bandage.
34. Metal Spreader

The plastic sleeve is to strengthen and protect the bandage over the area where the metal spreader is applied.

35. Hooking the Spreader over the Ventfoam.

After the Ventfoam has been bandaged to the leg the metal spreader is hooked over the plastic sleeve.

36. Cord attached to Metal Spreader

The traction cord is applied to the hook. Notice that the patterned side of the bandage would be next to the patient.

Ventfoam is very useful when traction is only needed for short periods, for example to immobilise a limb for a few hours or days before internal fixation of a fracture, or at night for a restless or confused patient following surgery in order to maintain limbs in the correct position. The weights applied to Ventfoam should not exceed 10 lbs.

37. Patient in Bed attached to Ventfoam Traction

This patient had Ventfoam non-adhesive skin traction applied following a fracture below the femoral component of a total hip replacement. He was waiting to have further surgery within the next few days and had temporary skin traction applied in order to reduce pain, muscle spasm and keep the fracture in reasonable alignment.

The Ventfoam bandage is placed on either side of the leg and kept in position with the crepe retaining bandage taking care not to wrinkle either the Ventfoam or the bandages. It is important to apply the bandage using even tension as stressed when discussing the application of adhesive skin traction.

38. View from Spreader looking Upwards

This slide shows the position of the spreader and the alignment of the leg - notice that the leg is in slight abduction. You can also see the use of a sandbag to prevent external rotation.

39. Side View of Foot with Ventfoam Applied

Patients with delicate skin, for example the elderly, need extra foam or cotton wool bandage applied round the ankles before the retaining bandage is applied.
to prevent the effect of friction. This slide particularly illustrates how important it is to care for the patient's heel to prevent the effect of pressure.

If traction is prolonged the leg may be placed on a pillow with the heel kept free from pressing on the bed.

40. Heading:-
   Cervical-Halter
   Traction
   Pelvic-Belt
   Traction

   We will now look at types of skin traction which are applied to other parts of the body apart from the limbs.

   Two special types of traction which could be classified as skin traction are Cervical Halter Traction and Pelvic Belt Traction. In both cases, the traction force is transmitted through the skin indirectly to the bone.

41. Illustration:-
   Cervical
   Halter
   Traction

   Cervical Halter Traction which is illustrated in this diagram will most likely be applied for relief of neck pain, neck strain or injuries to the cervical spine.

   The type of halter, clamps, bars and pulleys vary with the type of equipment in use in each hospital. It is very important that the chin piece is on the chin and not the throat and that the ears are free. The main pull of the traction should be on the occiput and not on the chin. The maximum amount of weight does not usually exceed 5 lbs. The occiput, chin, ears and mandible must be inspected regularly for pressure. Most people in cervical halter traction can have it removed for short periods for example for eating and washing. Men need to move the halter to shave as stubble causes itching or prickling.

42. Pelvic-Belt
    Traction.
    View of Belt
    and Weights

   By using a Pelvic Belt attached to traction weights it is possible to put an indirect pull on the lumbar spine.

   This patient suffered a back injury lifting and moving milk churns off a lorry and was admitted to
hospital as an emergency with acute central back pain and diminished sensation over the dorsum and boarders of his right foot.

43. View from the Weights looking up the Bed
Thirty pounds of pelvic belt traction were applied and the patient was nursed in this position for several weeks apart from log rolling for back care. The pain gradually diminished and the patient was mobilised gently after a Myelogram had revealed that as there was only slight bulging at the fifth lumbar disc space and therefore surgery is not necessary at the moment.

44. Full Length View of Patient on Pelvic Traction
In order to provide countertraction the foot of the bed is raised so the weight of the body balances with the traction weights creating the maximum amount of force around the pelvis.

Stop the tape in a moment and consider all the nursing problems this man may have had. Make a list of these problems and consider how you would plan his care. His wife and children lived over 30 miles away and found visiting quite a problem.

PAUSE!

45. Feeling under the Pelvic Belt
Did you consider care of the skin under the pelvic belt? This can get very sore particularly over the iliac crests. The belt should be removed to inspect, wash and powder the skin. There are other designs of Pelvic Belt for example in some cases, a strap comes down from each side on the outer aspect of each leg and there are two sets of weights.

46. Skin Traction Indirect Force
We have now looked at a variety of ways in which skin traction can be applied to the body. After watching this programme find out if any patients on the ward have skin traction applied and for what reasons. If you have the opportunity also visit the children's ward to see if any skin traction is in use there as well. Take the details of any patients with skin traction applied and record them in your work book.
Part (b) of this section of the programme discusses skeletal traction and gives further information on some of the general principles governing all types of traction.

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>Music</th>
</tr>
</thead>
<tbody>
<tr>
<td>47.</td>
<td>The End</td>
<td>Music</td>
</tr>
<tr>
<td>48.</td>
<td>Aerial View of University</td>
<td>Music</td>
</tr>
<tr>
<td>49.</td>
<td>Drummer</td>
<td>Music</td>
</tr>
<tr>
<td>50.</td>
<td>Music By:—</td>
<td>Music</td>
</tr>
</tbody>
</table>
BACKGROUND
The package is the outcome of a suggestion made by the Council's Working Party set up to consider the 'Changing Role of the Sick Children's Nurse', in the light of the recommended policies of the 'Court Report on Child Health Services — Fit for the Future'. It is primarily intended for post-registration students preparing for admission to the part of the Register for Sick Children's Nurses.

USES
The package will be available for purchase by schools of nursing, nurse teachers and individual student nurses, to be used as a complete package in Sick Children's Nursing courses. Selected Study Units are suitable for study of the welfare of children and care of sick children in general nursing courses.

THE PACKAGE
The package is divided into three main sections covering the development of children, nursing sick children, and meeting their needs, each section being sub-divided and colour-coded.

The package emphasises the affective aspects of caring for children and their families and examines in some detail the nurses' own reactions.

Most units are based on activities designed to help the learner recognise the inherent difficulties and the particular joys of caring for children and to help them increase nursing, particularly communication, skills.

No attempt has been made to 'cover' any syllabus completely.

Held in a specifically prepared ring binder are sixty A3-sized leaflets, each copiously illustrated with diagrams, drawings and photographs, many specially commissioned for the package. Each leaflet — 'Study Unit' — contains self-contained activities for students, in the form of quizzes, discussion ideas or observations.

Each ring binder set of leaflets also includes a see-through slip wallet to protect one Study Unit for use in the ward.

Accompanying the printed materials will be four specially-made tape-slide programmes, for use in group or private study. There are also two tape programmes, each of these audio-visual items is supported by one of the sixty Study Units, where activity questions and suggestions for use are found.

PRODUCTION
The Council commissioned Learning Materials Design, an educational consultancy specialising in the editing, design and production of educational training materials to produce the package. The work has been steered by a Project Team and contributions have been made by a large number of experts. Copyright for the package is vested in Council.

AVAILABILITY
The package will be available in February 1982 from:
The Publications Department,
The General Nursing Council
for England and Wales
23 Portland Place,
London W1A 1BA
Half of the Study Units will be available for preview in October 1981.

COST
The Package of sixty Study Units and index, with ring binder and plastic slip wallet will cost £6.00.

The four tape-slide programmes (160 slides), two tapes, in presentation wallet with notes is also available at price £28.00 inclusive of VAT.
Research Project:
Use of individualised learning methods in the clinical areas in nurse education

Research Officer:
Ann Wickenden, Nurse Tutor.

Whilst you are working on the orthopaedic wards you will be issued with a selection of individualised learning materials which should help to give you a sound theoretical base for certain aspects of your nursing practice. With your help the use of these materials will be monitored and evaluated throughout the time you are using them.

A tutor or clinical teacher will explain to you how to make the best use of these materials and together with the trained nursing staff on the ward will give you individual advice and help as you work through them.

Before you start to use these learning materials, it would be useful to gain some information about you as an individual, including some details of your own experiences and opinions concerning teaching and learning in general. It would therefore be helpful if you could answer the following questions:

---

### NAME:-

### AGE:-

**SECTION ONE**

Please tick in the appropriate box:

1) Which training are you undertaking?
   - S.E.N.
   - S.R.N.
   - B.Sc.S.R.N.

2) Which year of training are you in at present?
   - 1st
   - 2nd
   - 3rd
   - 4th

3) Are you: female? ☐    male? ☐

4a) Please give details of any school leaving certificates:

<table>
<thead>
<tr>
<th>Subject</th>
<th>Grade</th>
<th>'O' LEVELS</th>
<th>Subject</th>
<th>Grade</th>
<th>'A' LEVELS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Other, please state:
4b) Did you take the GNC Entrance Test:

Yes No

i) If 'yes', where did you take this test?

5) Did you have any nursing qualifications before starting this course?

Yes No

i) If 'yes', please give details of these qualifications:

6) Did you have any other qualifications before starting this course?

Yes No

i) If 'yes', please give details:

SECTION TWO. GENERAL EDUCATION

7) Which school/college did you attend during the final two years of your general education?

8) During your last year at school/college:

a) on average how many hours private study time (free periods) were you given in school hours?

None 1 2 3 4 hours per day
More than 4, please state number per day □ hours

b) on average how many hours study did you do out of school hours?

i) each weekday?

None 1 2 3 4 hours
More than 4, please state number per day □ hours

ii) at weekends?

None 1 2 3 4 5 6 hours per day
More than 6, please give number per day □ hours

c) What form did you private study take? Please ✓ all relevant boxes:

Reading  Essays
Answering set questions  Problem solving exercises
Project work  Programmed texts
Learning packages

Please give details of other forms of private study:
d) On average how many days did you wait to know the results of homework which was marked/corrected?

1 2 3 4 5 6 7 days

Please give details if more than 7 days:

Days Weeks

9) During your last 2 years at school which of the following learning/teaching methods did you experience? Please ✓ relevant boxes.

- Lectures
- Discussion in groups
- Seminar
- Debates
- Role play
- Films
- Tape/slide programmes
- Videotapes
- Programmed texts
- Individual tutorials
- Practical demonstrations
- Laboratory experiments
- Project work
- Computer assisted learning
- Learning packages

Please give details of other methods:

SECTION THREE. NURSING EDUCATION

10) Since starting your present course in nursing which of the following learning/teaching methods have you experienced?

a) away from the Clinical Areas in the School of Nursing/University. Please ✓ all relevant boxes.

- Lectures
- Discussion in Groups
- Seminars
- Debates
- Role play
- Films
- Tape/slide programmes
- Video tapes
- Practical demonstrations
- Laboratory experiments
- Educational games
- Individual tutorials
- Nursing practice in the School of Nursing
b) When working in the Clinical Areas (i.e. hospital wards and Departments and the Community). Please ✓ all relevant boxes:

- Tutorials from Nursing staff
- Tutorials from Medical staff
- Tutorials from Para-medical staff
- Working with a Clinical teacher
- Working with a ward sister who helps you to learn
- Working with a Staff Nurse who helps you to learn
- Working with a senior Student who helps you to learn.

c) When studying on your own. Please ✓ all relevant boxes:

- Reading
- Writing essays
- Answering set questions
- Writing patient case studies
- Devising patient care plans
- Using programmed texts
- Using learning packages
- Using computer assisted learning
- Project work

11) On average how many hours of your own time do you spend per week on independent study when you are in block?

- [ ] None
- [ ] 1
- [ ] 2
- [ ] 3
- [ ] 4
- [ ] 5
- [ ] 6

Please give details if more than 6 hours

[ ] hours

This question does not apply to University Students.

12) Compared with what you expected when you started your training is the amount of study you need to do in your own time during block. Please ✓ the relevant box.

- [ ] Less than you expected?
- [ ] Just as you expected?
- [ ] More than you expected?

This question does not apply to University Students.

13) On average how many hours of your own time do you spend per week on independent study when you are working in the clinical situation (Wards, Departments, Community).

- [ ] None
- [ ] 1
- [ ] 2
- [ ] 3
- [ ] 4
- [ ] 5
- [ ] 6

Please give details if more than 6 hours

[ ] hours
the amount of study you need to do in your own time when you are working in the clinical situation (Wards, Departments, Community):

Less than you expected?
Just as you expected?
More than you expected?

15) Compared to what you expected when you started your training, is the work you do when you are on duty:

- Generally more tiring than you expected?
- About as tiring as you expected?
- Generally less tiring than you expected?

16) Do you feel that it should be compulsory to complete work assignments when you are working in the clinical situation:

- Yes
- No

a) yes no

b) Please give a reason why you answered either 'yes' or 'no' to question (16a):

c) If your answer to (16a) was 'yes' what do you think should happen to students/pupils who fail to complete work assignments;

17) Please give details of any text books which you own which help you with your nursing studies. If you cannot remember the titles of the books, give details of the subject matter

18) When you are studying, do you use your own text books? please ✔ the most appropriate box

- Very frequently
- Quite often
- Occasionally
- Never
17) Do you think the guidance you were given when you had to decide which text books to buy was: please √ the most appropriate box:

- Extremely helpful
- Adequate
- Quite inadequate

20) Which libraries do you use?

If you do not use a library please √ none

21) At the moment how many library books do you have out to help you with your nursing studies? Please √ the most appropriate box:

- None
- 1
- 2
- 3
- 4
- 5
- 6

If you have more than this, please state amount:

a) What subjects do your library books cover?

22) Is the number of library books you have out at the moment: please √ the most appropriate box:

- Less than you usually have?
- About the number you usually have?
- More than you usually have?

23) When you go to the libraries in this area can you find the information which you need? Please √ the most appropriate answer:

- Always
- Mainly
- Rarely
- Never

24) Do you subscribe to a nursing or other professional journal?

√ Yes √ No

a) if the answer is 'yes' please give the name(s) of the journal(s):
25. a) Have you read a nursing or other professional journal(s):
   □ this week?
   □ this month?
   □ in the last 3 months?

   b) please give the name(s) of the journal(s) you have read:

26. a) I have drawn a thermometer which ranges from 'very satisfied' to 'very dissatisfied':

   ![Thermometer Diagram]

   Could you mark on this, with a line, how satisfied you have been with your nursing training/education so far.

   b) In your own words, please give some of the reasons why you chose this position to place your mark on the thermometer. Please use continuation space overleaf if necessary.
Thank you very much for your help,

ANN WICKENDEN
Follow up from Questionnaire.
Used as a basis for questions during the interviews

E) Follow up from Questionnaires

Section II General Education

8) Homework/Private Study

c) Form which homework took

d) How quickly homework was returned

9) Teaching/learning experiences in school

Section III Nurse Education

9) Teaching/learning experiences

a) away from clinical areas

b) when working in the clinical areas
c) when studying on your own

10) Time spent on study in block

11) Expectations

12) Time spent on study in clinical areas

13) Expectations

14) Tiring on the wards

15) Compulsory assignments

16) 17) 18) Textbooks

19) 20) 21) Library books, use of libraries
22) Information needed from libraries

23) 24) Nursing journals

25) Satisfaction with nurse training/education
APPENDIX 20

Interview Schedule (semi-structured)

For Student/Pupil Nurses at the end of their time on the orthopaedic wards

A) How the materials were used

1) Have you enjoyed taking part in this project?
   a) If 'yes' - for what reasons?

   If not mentioned follow up:-
   i) Type of materials used. Tape/slides, workbooks
      display board, articles, central materials
   ii) Relevance of materials to ward work
   iii) Visits from a tutor. Individual help
   iv) Tests. Immediate results
   v) Organising your own work

   b) If 'no' for what reasons?

   Discuss above headings

2) Did you finish all the work you were given?
   a) If 'yes' - was this due to an extra effort on your part, or
      was it quite easy?
      - if an extra effort, what made you do this (i.e.
        your motive)?
b) If 'no' - what made the work difficult to finish in time?
   - was it an unreasonable amount to do?

B) Effect of the materials on nursing practice

a) Have you ever thought about/acted upon anything you have learnt from the learning packages while you have been caring for a particular patient?

b) Has the information you have gained from these packages ever caused conflict with another member of staff as to how something (nursing care) should be done or planned?

C) Use of similar materials in other ward areas

a) Do you think all wards/clinical areas should have these sorts of materials available?

b) Would it be better to keep all the materials centrally in a library and leave it up to the student to go and get them themselves?

c) What types of subjects do you think lend themselves particularly to being presented on a tape/slide programme?
d) Are there any particular areas that you have worked in so far that you think these types of materials would have been particularly helpful?

D) Any other comments
Interview Schedule (semi-structured)

For Trained Nursing/Para-Medical/Medical staff on the wards who have been with the students and have helped them or been aware of the use of the learning materials

1) Do you know much about the research project the student/pupil nurses are doing using individualised learning materials?

2) Have you looked at any of the learning materials?

3) Do the students ever mention the learning packages to you when they are working or ask you to clarify or enlarge on points they have learnt from these packages?
   a) If so, what sort of things do they say?

4) a) Have you ever been consciously aware that a student/pupil has altered her nursing practice as a result of something she has learnt from one of these packages?
   b) Have you ever found that you have been in disagreement with any of the information given in the packages?

5) Have you altered any of your practice as a result of seeing the packages or after discussing them with colleagues or students?

6) Does it appear to you that the students enjoy using these packages? Would you have found something similar useful in your training, and if so, for what reasons?
6) a) If they have enjoyed the packages for what reasons?

b) If they have moaned about the packages for what reasons?

7) Do you think the fact that these materials are being used has made your teaching role: a) easier - why?

b) more difficult - why?

c) no change - why?

8) a) Do you think these materials would be better kept centrally in a library?

9) Has the fact that the students are using these materials changed the ward routine in any way? If so, in what way(s)?

10) What is your reaction to the knowledge that these materials have taken about 2 years to put together and cost around £2,000?

11) Any other comments about the use or effect of these learning materials?
DATA ANALYSIS

Categories which emerged from the semi-structured interviews with 50 learner nurses in Phase IV of the Study:

<table>
<thead>
<tr>
<th>Category Code Number</th>
<th>Category Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>1a</td>
<td>Opening Question. General feelings about the project/package/method of learning</td>
</tr>
<tr>
<td>1b</td>
<td>Closing Comment. Aspects most enjoyed/useful</td>
</tr>
<tr>
<td>1c</td>
<td>Comparison with other types of interblock work.</td>
</tr>
<tr>
<td>2a</td>
<td>2) Individual Components of the Package</td>
</tr>
<tr>
<td></td>
<td>Work Book - Use, order of work.</td>
</tr>
<tr>
<td>2b</td>
<td>Tape/Slide Programmes</td>
</tr>
<tr>
<td></td>
<td>Use of objectives</td>
</tr>
<tr>
<td></td>
<td>Follow up exercises</td>
</tr>
<tr>
<td>2c</td>
<td>Programmed Text</td>
</tr>
<tr>
<td>2d</td>
<td>Anatomy and Physiology Self Instructional Text</td>
</tr>
<tr>
<td>2e</td>
<td>Articles</td>
</tr>
<tr>
<td>2f</td>
<td>Bones</td>
</tr>
<tr>
<td>3a</td>
<td>Use of materials displayed on the board</td>
</tr>
<tr>
<td>3b</td>
<td>Use of central materials in cupboard</td>
</tr>
<tr>
<td>4</td>
<td>Relevance of the learning package to the ward work</td>
</tr>
<tr>
<td>5a</td>
<td>Effects of visits from a tutor i.e. motivation</td>
</tr>
<tr>
<td>5b</td>
<td>Support needed from the school/university when learners are on the wards</td>
</tr>
<tr>
<td>5c</td>
<td>The current situation in relation to the above</td>
</tr>
<tr>
<td>Category Code Number</td>
<td>Category Title</td>
</tr>
<tr>
<td>----------------------</td>
<td>----------------</td>
</tr>
<tr>
<td>6a</td>
<td>The effect of the pre/post tests</td>
</tr>
<tr>
<td>6b</td>
<td>The self-tests</td>
</tr>
<tr>
<td>7a</td>
<td>Feelings about organising/controlling own work</td>
</tr>
<tr>
<td>7b</td>
<td>Feelings about the time allowed for the work</td>
</tr>
<tr>
<td>8</td>
<td>Effect of the information in the package on nursing practice/patient care</td>
</tr>
<tr>
<td>9</td>
<td>Any conflict between information gained from the package and information/instruction from other sources, i.e. Qualified staff</td>
</tr>
<tr>
<td>10</td>
<td>Feelings about this approach to learning for other clinical areas. Areas where it would be particularly helpful/appropriate</td>
</tr>
<tr>
<td>11</td>
<td>Feelings about direct issue of materials as opposed to using a library</td>
</tr>
<tr>
<td>19</td>
<td>Any problems with the research methods themselves, i.e. diary, evaluation sheets</td>
</tr>
<tr>
<td>20</td>
<td>Other teaching from Ward Staff, Clinical Teachers or lack of it</td>
</tr>
<tr>
<td>21</td>
<td>Methods of teaching/learning in the School of Nursing</td>
</tr>
<tr>
<td>22</td>
<td>Feelings about student and pupil nurses studying the same learning materials</td>
</tr>
</tbody>
</table>
The following are items arising from the questionnaire

<table>
<thead>
<tr>
<th>Category Code Number</th>
<th>Category Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>12a</td>
<td>Comments on time spent on private study during study block. Expectations. Type of work</td>
</tr>
<tr>
<td>12b</td>
<td>Comments on time spent on private study whilst working in the clinical areas</td>
</tr>
<tr>
<td>13</td>
<td>The effect of tiring physical work on the wards on study</td>
</tr>
<tr>
<td>14</td>
<td>Details/Comments of which shift is most used for study</td>
</tr>
<tr>
<td>15a</td>
<td>The use of own text books for study</td>
</tr>
<tr>
<td>15b</td>
<td>The number of books student owns</td>
</tr>
<tr>
<td>15c</td>
<td>Advice on buying text books</td>
</tr>
<tr>
<td>16</td>
<td>Use of nursing and other journals</td>
</tr>
<tr>
<td>17</td>
<td>Use of libraries</td>
</tr>
<tr>
<td>18</td>
<td>Follow up individual comments about satisfaction/dissatisfaction with training</td>
</tr>
</tbody>
</table>
APPENDIX 23

Data Analysis

Categories which have emerged from the semi-structured interviews with qualified staff.

<table>
<thead>
<tr>
<th>Category Code No.</th>
<th>Category Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>1a.</td>
<td>General Impressions about the package. Amount covered/Contents observed.</td>
</tr>
<tr>
<td>1b.</td>
<td>Students comments</td>
</tr>
<tr>
<td>2.</td>
<td>Comments on Individual Parts of the Package.</td>
</tr>
<tr>
<td></td>
<td>a) Work Book</td>
</tr>
<tr>
<td></td>
<td>b) Tape/Slide Programme</td>
</tr>
<tr>
<td></td>
<td>c) Programmed Texts</td>
</tr>
<tr>
<td></td>
<td>d) A &amp; P Course</td>
</tr>
<tr>
<td></td>
<td>e) Articles</td>
</tr>
<tr>
<td></td>
<td>f) the Bones</td>
</tr>
<tr>
<td>3.</td>
<td>Use of materials kept centrally:</td>
</tr>
<tr>
<td></td>
<td>a) Display Board</td>
</tr>
<tr>
<td></td>
<td>b) Tape/Slide Programmes in Cupboard</td>
</tr>
<tr>
<td>4.</td>
<td>Relevance of whole package to work on the ward.</td>
</tr>
<tr>
<td>5.</td>
<td>Support needed from School of Nursing/University while the Students/Pupils are on the wards.</td>
</tr>
<tr>
<td>6.</td>
<td>Testing Students and Pupils.</td>
</tr>
<tr>
<td>8.</td>
<td>The effect of information in the package on nursing practice/patient care.</td>
</tr>
<tr>
<td>9.</td>
<td>Any disagreement with content of the package.</td>
</tr>
<tr>
<td>10.</td>
<td>Other areas where this type of learning would be particularly helpful.</td>
</tr>
<tr>
<td>12.</td>
<td>How much free time should students give up to study while they are working on the wards?</td>
</tr>
<tr>
<td>13.</td>
<td>Comments concerning the heavy work load. Students getting physically tired.</td>
</tr>
<tr>
<td>20.</td>
<td>Reference to other methods of teaching on the wards.</td>
</tr>
<tr>
<td>21a.</td>
<td>The effect the package has had on their own teaching role.</td>
</tr>
<tr>
<td>21b.</td>
<td>Have you ever referred to the package when you have been teaching?</td>
</tr>
</tbody>
</table>
22a. Issue of the same work to all groups of learners.
b. Differences between the groups.

23a. Issue of the package to all newly trained staff on the ward.
b. Preparation for the role of trained staff/teaching role/specialist information.

24. Do we need any other essential information in the package?

25. Have you altered your practice at all as a result of using the package or learnt anything new?

26. Has the fact that students are removed from the ward for tests etc. caused any inconvenience?

27. Should the ward staff be more involved in the organisation/care of the materials?

28. Reaction to knowledge about the cost (time/money) of producing the materials.

29. Comments on production of photos/programmes etc.

30. Preparation of the trained staff for the introduction of the project.

31. Meetings on Student Education. Discussion on Clinical Practice.

32. Organisation of the project.
5) The tape/slide programme I have just seen was:

**Student Nurses**  
- a) Interesting: 6 33.3 20 16 % Boring
- b) Relevant to Ward Work: 50 20 20 4 4 % Not Relevant to Ward Work
- c) Difficult to Understand: 4 4 4 20 66 % Easy to Understand

**Pupil Nurses**
- a) Interesting: 37 37 25
- b) Relevant to Ward Work: 37.5 37.5 12.5 12.5
- c) Difficult to Understand: 12.5 %

**University Students**
- a) Interesting: 28 28 28 14
- b) Relevant to Ward Work: 42 28 14 14
- c) Difficult to Understand: 100 %
5) The tape/slide programme I have just seen was:

<table>
<thead>
<tr>
<th></th>
<th>Student Nurses</th>
<th>Pupil Nurses</th>
<th>University Students</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>d) Easy to Organise</strong></td>
<td><img src="#" alt="Bar Chart" /></td>
<td><img src="#" alt="Bar Chart" /></td>
<td><img src="#" alt="Bar Chart" /></td>
</tr>
<tr>
<td>n = 24</td>
<td>37 25 12 8 4 8 4</td>
<td>50 37.5</td>
<td>71 14</td>
</tr>
<tr>
<td>% Difficult to Organise</td>
<td><img src="#" alt="Bar Chart" /></td>
<td><img src="#" alt="Bar Chart" /></td>
<td><img src="#" alt="Bar Chart" /></td>
</tr>
<tr>
<td></td>
<td><img src="#" alt="Bar Chart" /></td>
<td><img src="#" alt="Bar Chart" /></td>
<td><img src="#" alt="Bar Chart" /></td>
</tr>
<tr>
<td><strong>e) Muddled</strong></td>
<td><img src="#" alt="Bar Chart" /></td>
<td><img src="#" alt="Bar Chart" /></td>
<td><img src="#" alt="Bar Chart" /></td>
</tr>
<tr>
<td>% Clearly Presented</td>
<td><img src="#" alt="Bar Chart" /></td>
<td><img src="#" alt="Bar Chart" /></td>
<td><img src="#" alt="Bar Chart" /></td>
</tr>
<tr>
<td></td>
<td><img src="#" alt="Bar Chart" /></td>
<td><img src="#" alt="Bar Chart" /></td>
<td><img src="#" alt="Bar Chart" /></td>
</tr>
<tr>
<td><strong>f) Taught Me a Lot</strong></td>
<td><img src="#" alt="Bar Chart" /></td>
<td><img src="#" alt="Bar Chart" /></td>
<td><img src="#" alt="Bar Chart" /></td>
</tr>
<tr>
<td>% Taught Me Nothing</td>
<td><img src="#" alt="Bar Chart" /></td>
<td><img src="#" alt="Bar Chart" /></td>
<td><img src="#" alt="Bar Chart" /></td>
</tr>
</tbody>
</table>
6) The Voice on the Programme was:

Student Nurses  n = 24

| 70 | 20 | 4 | 4 |

Pupil Nurses  n = 8

| 75 | 12.5 | 12.5 |

University Students n = 7

| 86 | 14 |

Student Nurses

b) Monotonous

| 4 | 4 | 16 | 42 | 16 | 16 |

Pupil Nurses

| 12.5 | 12.5 | 50 | 25 |

University Students

| 28 | 14 | 43 | 14 |

Student Nurses

c) Too Fast

| 4 | 79 | 12 | 4 |

Pupil Nurses

| 25 | 75 |

University Students

| 71 | 14 | 14 |
Student Nurses $n = 24$

a) Interesting

| 20 | 42 | 16 | 8 | 8 | 4 |

Boring

Pupil Nurses $n = 8$

| 25 | 37.5 | 25 | 12.5 |

University Students $n = 7$

| 43 | 28 | 28 |

---

b) Clearly in Focus

| 75 | 16 | 4 | 4 | 4 |

Blurred

Pupil Nurses

| 87 | 12.5 |

University Students

| 100 |

---

c) Changed Too Frequently

| 4 | 47.5 | 12 | 8 | 4 |

Not Changed Often Enough

Pupil Nurses

| 12.5 | 12.5 | 62.5 | 12.5 |

University Students

| 14 | 57 | 28 |

---

d) Very Explanatory

| 20 | 50 | 16 | 12 |

Not Explanatory Enough

Pupil Nurses

| 12.5 | 62.5 | 12.5 |

University Students

| 28 | 42 | 28 |
Part One

9) Do you have any other general comments about the programme?

Student Nurses

S4 I felt the programme was too slow it could have been done in half the time.

S21 Very good, was able to take clear notes of relevant points.

S23 I felt it was too 'wordy' at times, giving information which was immediately obvious when viewing the slide. Otherwise quite interesting as it is not likely that a four week allocation would give experience of all the aids shown.

S27 Very interesting but unfortunately I have not seen many of the aids used.

Pupil Nurses

No comments

University Students

U1 Good introduction - some of the spaces between slides were too long and you thought the cassette recorder had stopped.

U2 A good general introduction, actual factual information not very good but introduced me well to lifting etc, and made me want to see all available lifting materials etc. It would have been useful to have had the Mecabed etc in central place to see sometime in conjunction with tapes and information.

U3 Very useful introduction + reminder of past experiences and general principles.
5) The Tape Slide Programme I have just seen was:-

<table>
<thead>
<tr>
<th></th>
<th>Student Nurses</th>
<th>Pupil Nurses</th>
<th>University Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Interesting</td>
<td>50 35 20 15</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>50 30 10 10</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>28 57 14</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1  2  3  4  5  6  7</td>
<td>1  2  3  4  5  6  7</td>
<td>1  2  3  4  5  6  7</td>
</tr>
<tr>
<td></td>
<td>% Boring</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Student Nurses</th>
<th>Pupil Nurses</th>
<th>University Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>b) Relevant to Ward Work</td>
<td>75 6 19</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>70 20 10</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>86 14</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1  2  3  4  5  6  7</td>
<td>1  2  3  4  5  6  7</td>
<td>1  2  3  4  5  6  7</td>
</tr>
<tr>
<td></td>
<td>% Not Relevant to Ward Work</td>
<td>% Not Relevant to Ward Work</td>
<td>% Not Relevant to Ward Work</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Student Nurses</th>
<th>Pupil Nurses</th>
<th>University Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>c) Difficult to Understand</td>
<td>10 5 5 80</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>20 20 60</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>14 86</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1  2  3  4  5  6  7</td>
<td>1  2  3  4  5  6  7</td>
<td>1  2  3  4  5  6  7</td>
</tr>
<tr>
<td></td>
<td>% Easy to Understand</td>
<td>% Easy to Understand</td>
<td>% Easy to Understand</td>
</tr>
</tbody>
</table>
The tape/slide programme I have just seen was:

<table>
<thead>
<tr>
<th></th>
<th>Student Nurses</th>
<th>Pupil Nurses</th>
<th>University Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>d) Easy to Organise</td>
<td>60 15 10 10 10 5</td>
<td>10 40 10 20 20</td>
<td>57 14 29 14 28 58</td>
</tr>
<tr>
<td></td>
<td>% Difficult to Organise</td>
<td>%</td>
<td>%</td>
</tr>
<tr>
<td>e) Muddled</td>
<td>5 19 9 9 57</td>
<td>10 10 10 70</td>
<td>14 28 58</td>
</tr>
<tr>
<td></td>
<td>% Clearly Presented</td>
<td>%</td>
<td>%</td>
</tr>
<tr>
<td>f) Taught me a Lot</td>
<td>25 40 15 15 5</td>
<td>20 30 10 20 20 10 10</td>
<td>14 72 14 14</td>
</tr>
<tr>
<td></td>
<td>% Taught me Nothing</td>
<td>%</td>
<td>%</td>
</tr>
</tbody>
</table>
6) The Voice on the Programme was:

**Student Nurses n = 20**

<table>
<thead>
<tr>
<th>Clear</th>
<th>70</th>
<th>25</th>
<th>5</th>
<th></th>
<th>% Muffled</th>
</tr>
</thead>
</table>

**Pupil Nurses n = 10**

| 86 | 14 |

**University Students n = 7**

| 86 | 14 |

---

**Student Nurses n = 20**

<table>
<thead>
<tr>
<th>Monotonous</th>
<th>5</th>
<th>20</th>
<th>45</th>
<th>10</th>
<th>20</th>
<th></th>
<th>% Lively</th>
</tr>
</thead>
</table>

**Pupil Nurses n = 10**

| 10 | 20 | 10 | 30 | 30 |          | %        |

**University Students n = 7**

| 14 | 14 | 14 | 29 | 29 |          | %        |

---

**Student Nurses n = 20**

<table>
<thead>
<tr>
<th>Too Fast</th>
<th>15</th>
<th>65</th>
<th>5</th>
<th>15</th>
<th></th>
<th>% Too Slow</th>
</tr>
</thead>
</table>

**Pupil Nurses n = 10**

| 90 | 10 |          | % |

**University Students n = 7**

| 14 | 72 | 14 |          | % |

---
a) Interesting

Student Nurses  
\[ \begin{array}{c|c|c|c|c} 
23 & 23 & 9 & 19 \\
\hline 
\end{array} \]

Pupil Nurses  
\[ \begin{array}{c|c|c|c|c} 
30 & 40 & 10 & 10 \\
\hline 
\end{array} \]

University Students  
\[ \begin{array}{c|c|c|c|c} 
44 & 14 & 28 & 14 \\
\hline 
\end{array} \]

b) Clearly in Focus

Student Nurses  
\[ \begin{array}{c|c|c|c|c} 
76 & 19 & 5 \\
\hline 
\end{array} \]

Pupil Nurses  
\[ \begin{array}{c|c|c|c|c} 
90 & 10 \\
\hline 
\end{array} \]

University Students  
\[ \begin{array}{c|c|c|c|c} 
86 & 14 \\
\hline 
\end{array} \]

c) Changed Too Frequently

Student Nurses  
\[ \begin{array}{c|c|c|c|c} 
19 & 62 & 14 & 4 \\
\hline 
\end{array} \]

Pupil Nurses  
\[ \begin{array}{c|c|c|c|c} 
10 & 70 & 10 & 10 \\
\hline 
\end{array} \]

University Students  
\[ \begin{array}{c|c|c|c|c} 
14 & 58 & 14 & 14 \\
\hline 
\end{array} \]

d) Very Explanatory

Student Nurses  
\[ \begin{array}{c|c|c|c|c} 
28 & 28 & 24 & 14 & 4 \\
\hline 
\end{array} \]

Pupil Nurses  
\[ \begin{array}{c|c|c|c|c} 
40 & 30 & 20 & 10 \\
\hline 
\end{array} \]

University Students  
\[ \begin{array}{c|c|c|c|c} 
28 & 58 & 14 \\
\hline 
\end{array} \]
8) The Activities in these Programme:

Student Nurses $n = 21$

<table>
<thead>
<tr>
<th>a) Added to the Value of the Programme</th>
<th>47</th>
<th>29</th>
<th>14</th>
<th>10</th>
<th>% Were a Waste of Time</th>
</tr>
</thead>
</table>

Pupil Nurses $n = 10$

<table>
<thead>
<tr>
<th></th>
<th>30</th>
<th>30</th>
<th>20</th>
<th>20</th>
<th>%</th>
</tr>
</thead>
</table>

University Students $n = 7$

<table>
<thead>
<tr>
<th></th>
<th>58</th>
<th>28</th>
<th>14</th>
<th>14</th>
<th>%</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
</table>

**Student Nurses** $n = 21$

<table>
<thead>
<tr>
<th>b) Were Childish</th>
<th>5</th>
<th>5</th>
<th>9</th>
<th>19</th>
<th>9</th>
<th>52</th>
<th>% Were a Useful Form of Learning for an Adult</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th></th>
<th>10</th>
<th>40</th>
<th>20</th>
<th>30</th>
<th>%</th>
</tr>
</thead>
</table>

University Students $n = 7$

<table>
<thead>
<tr>
<th></th>
<th>14</th>
<th>14</th>
<th>28</th>
<th>44</th>
<th>%</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
</table>

**Student Nurses** $n = 21$

<table>
<thead>
<tr>
<th>c) Gave One Time to Assimilate Facts and Ideas</th>
<th>24</th>
<th>42</th>
<th>14</th>
<th>14</th>
<th>5</th>
<th>% Interrupted the Continuity of the Programme</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th></th>
<th>30</th>
<th>20</th>
<th>20</th>
<th>10</th>
<th>20</th>
<th>%</th>
</tr>
</thead>
</table>

University Students $n = 7$

<table>
<thead>
<tr>
<th></th>
<th>28</th>
<th>44</th>
<th>14</th>
<th>14</th>
<th>%</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
</table>
The Activities in these Programmes:

**d) Were Difficult to Manipulate When Using Tapes and Slides**

<table>
<thead>
<tr>
<th></th>
<th>Student Nurses</th>
<th>n = 21</th>
<th>Pupil Nurses</th>
<th>n = 10</th>
<th>University Students</th>
<th>n = 7</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>5</td>
<td>5</td>
<td>14</td>
<td>10</td>
<td>5</td>
<td>19</td>
</tr>
<tr>
<td></td>
<td>10</td>
<td></td>
<td>20</td>
<td>40</td>
<td>30</td>
<td></td>
</tr>
<tr>
<td></td>
<td>28</td>
<td></td>
<td>14</td>
<td>58</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
</tbody>
</table>

**e) Were Enjoyable**

<table>
<thead>
<tr>
<th></th>
<th>Student Nurses</th>
<th>n = 20</th>
<th>Pupil Nurses</th>
<th>n = 10</th>
<th>University Students</th>
<th>n = 7</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>14</td>
<td>34</td>
<td>19</td>
<td>19</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>20</td>
<td>30</td>
<td>20</td>
<td>30</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>28</td>
<td>28</td>
<td>14</td>
<td>14</td>
<td>14</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
</tbody>
</table>
9) Do you have any other general comments about the programme?

Student Nurses

S3 Difficulty during activities on slides were my own fault due to bad organisation in my room!

S4 Too slow and a bit boring as I have picked all this up on the ward (did programme during last week of allocation). It would have been more useful at the beginning of my 4 weeks.

S17 The first part of the programme was too fast and took a lot of rewinding to gain full understanding.

Pupil Nurses

P3 I enjoyed this tape slide programme and found this one the most interesting.

P6 The programme was interesting and relevant. It was useful to ward work.

P9 Very helpful.

University Students

U1 Most interesting and useful tape/slide programme so far!

U2 A bit more depth (needed) on blood vessels.

U3 I found this programme more helpful and interesting than IIa as it was less repetitive for lifting procedures.
5) The Tape/Slide Programme I have just seen was:

<table>
<thead>
<tr>
<th>TYPES AND USES: SKIN TRACTION (detail)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student Nurses n = 21</td>
</tr>
<tr>
<td>a) Interesting</td>
</tr>
<tr>
<td>53 19 14 9 5</td>
</tr>
<tr>
<td>% Boring</td>
</tr>
<tr>
<td>Pupil Nurses n = 10</td>
</tr>
<tr>
<td>70 30</td>
</tr>
<tr>
<td>%</td>
</tr>
<tr>
<td>University Students n = 7</td>
</tr>
<tr>
<td>43 14 28 14</td>
</tr>
<tr>
<td>%</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Student Nurses n = 21</td>
</tr>
<tr>
<td>b) Relevant to Ward</td>
</tr>
<tr>
<td>57 24 5 14</td>
</tr>
<tr>
<td>% Not Relevant to Ward Work</td>
</tr>
<tr>
<td>Pupil Nurses n = 10</td>
</tr>
<tr>
<td>70 30</td>
</tr>
<tr>
<td>%</td>
</tr>
<tr>
<td>University Students n = 7</td>
</tr>
<tr>
<td>14 72 14</td>
</tr>
<tr>
<td>%</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Student Nurses n = 21</td>
</tr>
<tr>
<td>c) Difficult to Understand</td>
</tr>
<tr>
<td>5 5 5 19 66</td>
</tr>
<tr>
<td>% Easy to Understand</td>
</tr>
<tr>
<td>Pupil Nurses n = 10</td>
</tr>
<tr>
<td>10 30</td>
</tr>
<tr>
<td>%</td>
</tr>
<tr>
<td>University Students n = 7</td>
</tr>
<tr>
<td>14 86</td>
</tr>
<tr>
<td>%</td>
</tr>
</tbody>
</table>
cont 5) The tape slide programme I have just seen was:

d) Easy to Organise

<table>
<thead>
<tr>
<th></th>
<th>Student Nurses</th>
<th>Pupil Nurses</th>
<th>University Students</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n = 21</td>
<td>n = 10</td>
<td>n = 7</td>
</tr>
<tr>
<td></td>
<td>43</td>
<td>38</td>
<td>9</td>
</tr>
<tr>
<td></td>
<td>40</td>
<td>40</td>
<td></td>
</tr>
<tr>
<td></td>
<td>14</td>
<td>29</td>
<td>14</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>

e) Muddled

<table>
<thead>
<tr>
<th></th>
<th>Student Nurses</th>
<th>Pupil Nurses</th>
<th>University Students</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n = 21</td>
<td>n = 10</td>
<td>n = 7</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>5</td>
<td>9</td>
<td>19</td>
</tr>
<tr>
<td></td>
<td>10</td>
<td></td>
<td>20</td>
</tr>
<tr>
<td></td>
<td>14</td>
<td>14</td>
<td>14</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>

f) Taught Me a Lot

<table>
<thead>
<tr>
<th></th>
<th>Student Nurses</th>
<th>Pupil Nurses</th>
<th>University Students</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n = 21</td>
<td>n = 10</td>
<td>n = 7</td>
</tr>
<tr>
<td></td>
<td>14</td>
<td>43</td>
<td>19</td>
</tr>
<tr>
<td></td>
<td>20</td>
<td>80</td>
<td></td>
</tr>
<tr>
<td></td>
<td>43</td>
<td>14</td>
<td>29</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>
6) The Voice on the Programme was:

<table>
<thead>
<tr>
<th></th>
<th>Student Nurses</th>
<th>Pupil Nurses</th>
<th>University Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Clear</td>
<td>71 24 5</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>80 10 10</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>100</td>
<td></td>
</tr>
<tr>
<td></td>
<td>n = 21</td>
<td>n = 10</td>
<td>n = 7</td>
</tr>
<tr>
<td></td>
<td>% Muffled</td>
<td></td>
<td></td>
</tr>
<tr>
<td>b) Monotonous</td>
<td>9 38 14 28 9</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>10 20 10 40 20</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>14 44 14 28</td>
<td></td>
</tr>
<tr>
<td></td>
<td>n = 21</td>
<td>n = 10</td>
<td>n = 7</td>
</tr>
<tr>
<td></td>
<td>% Lively</td>
<td></td>
<td></td>
</tr>
<tr>
<td>c) Too Fast</td>
<td>14 77 9</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>20 80</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>28 58 14</td>
<td></td>
</tr>
<tr>
<td></td>
<td>n = 21</td>
<td>n = 10</td>
<td>n = 7</td>
</tr>
<tr>
<td></td>
<td>% Too Slow</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
The pictures on the slides were:

a) Interesting

<table>
<thead>
<tr>
<th>Student Nurses</th>
<th>n = 21</th>
</tr>
</thead>
<tbody>
<tr>
<td>24 33 24 5 9 5</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Pupil Nurses</th>
<th>n = 10</th>
</tr>
</thead>
<tbody>
<tr>
<td>40 60</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>University Students</th>
<th>n = 7</th>
</tr>
</thead>
<tbody>
<tr>
<td>58 28 14</td>
<td></td>
</tr>
</tbody>
</table>

b) Clearly in Focus

<table>
<thead>
<tr>
<th>Student Nurses</th>
<th>n = 21</th>
</tr>
</thead>
<tbody>
<tr>
<td>71 19 5 5</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Pupil Nurses</th>
<th>n = 10</th>
</tr>
</thead>
<tbody>
<tr>
<td>80 20</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>University Students</th>
<th>n = 7</th>
</tr>
</thead>
<tbody>
<tr>
<td>86 14 14</td>
<td></td>
</tr>
</tbody>
</table>

c) Changed Too Frequently

<table>
<thead>
<tr>
<th>Student Nurses</th>
<th>n = 21</th>
</tr>
</thead>
<tbody>
<tr>
<td>71 19 10</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Pupil Nurses</th>
<th>n = 10</th>
</tr>
</thead>
<tbody>
<tr>
<td>20 10 60 10</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>University Students</th>
<th>n = 7</th>
</tr>
</thead>
<tbody>
<tr>
<td>72 14 14</td>
<td></td>
</tr>
</tbody>
</table>

d) Very Explanatory

<table>
<thead>
<tr>
<th>Student Nurses</th>
<th>n = 21</th>
</tr>
</thead>
<tbody>
<tr>
<td>14 48 23 9 5</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Pupil Nurses</th>
<th>n = 10</th>
</tr>
</thead>
<tbody>
<tr>
<td>30 40 10 20</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>University Students</th>
<th>n = 7</th>
</tr>
</thead>
<tbody>
<tr>
<td>28 44 14 14</td>
<td></td>
</tr>
</tbody>
</table>
8) The Activities in these Programmes:

<table>
<thead>
<tr>
<th></th>
<th>Student Nurses n = 20</th>
<th>Pupil Nurses n = 10</th>
<th>University Students n = 7</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>a) Added to the Value</strong></td>
<td>30 20 25 20 5</td>
<td>20 40 30 10</td>
<td>44 28 14 14</td>
</tr>
<tr>
<td></td>
<td>%</td>
<td>%</td>
<td>%</td>
</tr>
<tr>
<td></td>
<td>Were a Waste of Time</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Student Nurses n = 20</th>
<th>Pupil Nurses n = 10</th>
<th>University Students n = 7</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>b) Were Childish</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>20 25 25 30</td>
<td>10 40 30 20</td>
<td>28 14 14 44</td>
</tr>
<tr>
<td></td>
<td>%</td>
<td>%</td>
<td>%</td>
</tr>
<tr>
<td></td>
<td>Were a Useful Form of Learning for an Adult</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Student Nurses n = 20</th>
<th>Pupil Nurses n = 10</th>
<th>University Students n = 7</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>c) Gave One Time to Assimilate Facts and Ideas</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>30 15 40 10 5</td>
<td>20 20 50 10</td>
<td>44 14 28 14</td>
</tr>
<tr>
<td></td>
<td>%</td>
<td>%</td>
<td>%</td>
</tr>
<tr>
<td></td>
<td>Interrupted the Continuity of the Programme</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
The Activities in these Programmes—

d) Were Difficult to Manipulate When Using Tapes and Slides

<table>
<thead>
<tr>
<th>Percentage</th>
<th>Student Nurses (n = 20)</th>
<th>Pupil Nurses (n = 10)</th>
<th>University Students (n = 7)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td></td>
<td>10</td>
<td>14</td>
</tr>
<tr>
<td>25</td>
<td></td>
<td>10</td>
<td>14</td>
</tr>
<tr>
<td>15</td>
<td></td>
<td>10</td>
<td>14</td>
</tr>
<tr>
<td>20</td>
<td></td>
<td>30</td>
<td>14</td>
</tr>
<tr>
<td>35</td>
<td></td>
<td>30</td>
<td>72</td>
</tr>
</tbody>
</table>

% Were Not Too Difficult to Organise When Using Tapes and Slides

e) Were Enjoyable

<table>
<thead>
<tr>
<th>Percentage</th>
<th>Student Nurses (n = 20)</th>
<th>Pupil Nurses (n = 10)</th>
<th>University Students (n = 7)</th>
</tr>
</thead>
<tbody>
<tr>
<td>15</td>
<td></td>
<td>20</td>
<td>29</td>
</tr>
<tr>
<td>30</td>
<td></td>
<td>40</td>
<td>29</td>
</tr>
<tr>
<td>25</td>
<td></td>
<td>30</td>
<td>14</td>
</tr>
<tr>
<td>20</td>
<td></td>
<td>10</td>
<td>14</td>
</tr>
<tr>
<td>5</td>
<td></td>
<td></td>
<td>14</td>
</tr>
<tr>
<td>5</td>
<td></td>
<td></td>
<td>14</td>
</tr>
</tbody>
</table>

% Were Aggravating

1 2 3 4 5 6 7
PART THREE A

9) Do you have any other general comments about the programme?

Student Nurses
S3 I wish I'd listened to it earlier! (Week 4).
S21 Good detail about traction and use of materials used in traction.

Pupil Nurses
P6 I find the slides helpful as actually having a picture to associate to the tape, and the context of the word is useful. I also think that doing things while the tape is on is useful from the point of remembering and helps you keep interested.

P9 Helpful and interesting.

University Students
U1 Very interesting and useful and made me think that I could now if necessary apply skin traction.
U3 Raised questions which had to be answered from other sources.
U7 Interesting.
5) The Tape Slide Programme I have just seen was:

<table>
<thead>
<tr>
<th></th>
<th>Student Nurses</th>
<th>Pupil Nurses</th>
<th>University Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Interesting</td>
<td>40 25 20 15</td>
<td>67 33</td>
<td>57 14 29</td>
</tr>
<tr>
<td></td>
<td>8 Boring</td>
<td>8</td>
<td>8</td>
</tr>
<tr>
<td>b) Relevant to</td>
<td>50 45 5</td>
<td>67 22 11</td>
<td>57 15 14 14</td>
</tr>
<tr>
<td>Ward Work</td>
<td>8 Not Relevant</td>
<td>8</td>
<td>8</td>
</tr>
<tr>
<td>c) Difficult to</td>
<td>10 25 10 20 35</td>
<td>22 33 45</td>
<td>29 71</td>
</tr>
<tr>
<td>Understand</td>
<td>8 Easy to</td>
<td>8</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>Understand</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

\[ n = 20, n = 9, n = 7 \]
cont 5) The tape slide programme I have just seen was:

Student Nurses  n = 20

d) Easy to Organise

| 45 | 25 | 10 | 15 | 5       |

% Difficult to Organise

Pupil Nurses  n = 9

| 22 | 45 | 22 | 11 |

University Students  n = 7

| 57 | 14 | 14 | 29 |

Student Nurses  n = 20
e) Muddled

| 5 | 15 | 20 | 5 | 55 |

% Clearly Presented

Pupil Nurses  n = 9

| 22 | 11 | 67 |

University Students  n = 7

| 14 | 14 | 72 |

Student Nurses  n = 20

f) Taught Me a Lot

| 35 | 15 | 25 | 25 |

% Taught Me Nothing

Pupil Nurses  n = 9

| 11 | 78 | 11 |

University Students  n = 7

| 29 | 57 | 14 |
6) The Voice on the Programme was:

<table>
<thead>
<tr>
<th>Voice Type</th>
<th>Student Nurses</th>
<th>Pupil Nurses</th>
<th>University Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Clear</td>
<td>60 30 10</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>67 33</td>
<td></td>
</tr>
<tr>
<td></td>
<td>86 14</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1 2 3 4 5 6 7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>% Muffled</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b) Monotonous</td>
<td>15 25 30 15 15</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>22 56 22</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>14 58 14 14</td>
<td></td>
<td></td>
</tr>
<tr>
<td>% Lively</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>c) Too Fast</td>
<td>5 5 5 70 10 5</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>11 89</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>86 14</td>
<td></td>
<td></td>
</tr>
<tr>
<td>% Too Slow</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### a) Interesting

<table>
<thead>
<tr>
<th></th>
<th>Student Nurses</th>
<th>Pupil Nurses</th>
<th>University Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boring</td>
<td>40 15 15 20 10</td>
<td>33 56 11</td>
<td>57 14 29</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>1 2 3 4 5 6 7</td>
</tr>
</tbody>
</table>

### b) Clearly in Focus

<table>
<thead>
<tr>
<th></th>
<th>Student Nurses</th>
<th>Pupil Nurses</th>
<th>University Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blurred</td>
<td>70 20 5 5</td>
<td>56 44</td>
<td>72 28</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>1 2 3 4 5 6 7</td>
</tr>
</tbody>
</table>

### c) Changed too Frequently

<table>
<thead>
<tr>
<th></th>
<th>Student Nurses</th>
<th>Pupil Nurses</th>
<th>University Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not Changed Often Enough</td>
<td>5 15 50 20 5 5</td>
<td>89 11</td>
<td>14 14 58 14</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>1 2 3 4 5 6 7</td>
</tr>
</tbody>
</table>

### d) Very Explanatory

<table>
<thead>
<tr>
<th></th>
<th>Student Nurses</th>
<th>Pupil Nurses</th>
<th>University Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not Explanatory At All</td>
<td>25 25 35 10 5</td>
<td>11 45 33 11</td>
<td>14 72 14</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>1 2 3 4 5 6 7</td>
</tr>
</tbody>
</table>
8) The Activities in these Programmes:

a) Added to the Value of the Programme

- Student Nurses, $n = 20$
  - 30% were a waste of time

- Pupil Nurses, $n = 9$
  - 11% were a waste of time

- University Students, $n = 7$
  - 28% were a waste of time

b) Were Childish

- Student Nurses, $n = 20$
  - 30% were a useful form of learning for an adult

- Pupil Nurses, $n = 9$
  - 11% were a useful form of learning for an adult

- University Students, $n = 7$
  - 14% were a useful form of learning for an adult

c) Gave One Time to Assimilate Facts and Ideas

- Student Nurses, $n = 20$
  - 35% interrupted the continuity of the programme

- Pupil Nurses, $n = 9$
  - 33% interrupted the continuity of the programme

- University Students, $n = 7$
  - 29% interrupted the continuity of the programme
The Activities in These Programs:

d) Were Difficult to Manipulate When Using Tapes and Slides

<table>
<thead>
<tr>
<th></th>
<th>Student Nurses</th>
<th>Pupil Nurses</th>
<th>University Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>N (%)</td>
<td>n = 20</td>
<td>n = 9</td>
<td>n = 7</td>
</tr>
<tr>
<td>%</td>
<td>5 10 5 15 30 35</td>
<td>11 22 11 11 45</td>
<td>14 14 28 44</td>
</tr>
</tbody>
</table>

- Student Nurses: 25 15 20 30 10
- Pupil Nurses: 22 22 56
- University Students: 14 43 29 14
9) Do you have any other general comments about the programme?

Student Nurses
S20 I found the part about suspension and Baulkan beam difficult to understand.
S21 Very good information - well organised.
S25 I found that with all the tape/slide programmes, that they were fairly relevant to ward work but, more emphasis should be placed on the type of patient and problem asked about on our State Final. I feel they helped me to actually get down to studying on a regular basis.

Pupil Nurses
P2 Interesting but one has to study the work book afterwards.
P6 I thought the Baulkan beam traction was quite confusing when explained on the tape and hard to follow. If I hadn't seen Crutchfield Tongs I wouldn't of understood their use etc. The tape was interesting and well put together.

University Students
U1 Good about Thomases' Splint and Baulkan beam particularly.
U3 Very relevant and although I had picked up the general principles on the ward these showed me the finer points which are not immediately obvious on the ward.
U7 Types of traction difficult to understand at first. I had to play it through twice, and some points several times.
5) The Tape Slide Programme I have just seen was:

- **Interesting**
  - Student Nurses \( n = 15 \):
    - 54
    - 13
    - 13
    - 13
    - 6
    - % Boring
  - Pupil Nurses \( n = 8 \):
    - 50
    - 50
    - %
  - University Students \( n = 7 \):
    - 43
    - 14
    - 29
    - 14
    - %

- **Relevant to Ward Work**
  - Student Nurses \( n = 15 \):
    - 74
    - 14
    - 6
    - 6
    - % Not Relevant to Ward Work
  - Pupil Nurses \( n = 8 \):
    - 75
    - 25
    - %
  - University Students \( n = 7 \):
    - 75
    - 25
    - %

- **Difficult to Understand**
  - Student Nurses \( n = 15 \):
    - \(\frac{6}{6}x\)
    - \(\frac{14}{14}x\)
    - \(\frac{74}{74}x\)
    - % Easy to Understand
  - Pupil Nurses \( n = 8 \):
    - 12
    - 12
    - 38
    - 38
    - %
  - University Students \( n = 7 \):
    - \(\frac{14}{14}x\)
    - \(\frac{14}{14}x\)
    - 72
    - %
cont 5) The tape slide programme I have just seen was:-

<table>
<thead>
<tr>
<th>d) Easy to Organise</th>
<th>Student Nurses n = 15</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>54 6 12 6 12 6</td>
</tr>
<tr>
<td></td>
<td>% Difficult to Organise</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Student Nurses n = 8</th>
</tr>
</thead>
<tbody>
<tr>
<td>62 12 12 12</td>
</tr>
<tr>
<td>%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>University Students n = 7</th>
</tr>
</thead>
<tbody>
<tr>
<td>86 14</td>
</tr>
<tr>
<td>%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Student Nurses n = 15</th>
</tr>
</thead>
<tbody>
<tr>
<td>e) Muddled</td>
</tr>
<tr>
<td>6 28 66</td>
</tr>
<tr>
<td>% Clearly Presented</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Student Nurses n = 8</th>
</tr>
</thead>
<tbody>
<tr>
<td>12</td>
</tr>
<tr>
<td>25 63</td>
</tr>
<tr>
<td>%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>University Students n = 7</th>
</tr>
</thead>
<tbody>
<tr>
<td>14 43 43</td>
</tr>
<tr>
<td>%</td>
</tr>
</tbody>
</table>

| Student Nurses n = 15 |
| f) Taught Me a Lot     |
| 34 13 46 7             |
| % Taught Me Nothing    |

<table>
<thead>
<tr>
<th>Student Nurses n = 8</th>
</tr>
</thead>
<tbody>
<tr>
<td>25 75</td>
</tr>
<tr>
<td>%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>University Students n = 7</th>
</tr>
</thead>
<tbody>
<tr>
<td>29 14 43 14</td>
</tr>
<tr>
<td>%</td>
</tr>
</tbody>
</table>
6) The Voice on the Programme was:

a) Clear

- Student Nurses n = 15
  - 40 27 13 7 6 6

- Pupil Nurses n = 8
  - 88 12

- University Students n = 7
  - 72 28

b) Monotonous

- Student Nurses n = 15
  - 20 34 20 13 13

- Pupil Nurses n = 8
  - 12 12 50 26

- University Students n = 7
  - 28 16 28 28

c) Too Fast

- Student Nurses n = 15
  - 13 67 20

- Pupil Nurses n = 8
  - 12 76 12

- University Students n = 7
  - 72 28
<table>
<thead>
<tr>
<th>Category</th>
<th>Group</th>
<th>Percentage</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Interesting</td>
<td>Student Nurses</td>
<td>33%</td>
<td>12-20-27-20</td>
</tr>
<tr>
<td></td>
<td>Pupil Nurses</td>
<td>58%</td>
<td>38-62</td>
</tr>
<tr>
<td></td>
<td>University Students</td>
<td>39%</td>
<td>28-44-28</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>1 2 3 4 5 6 7</td>
</tr>
<tr>
<td>b) Clearly in Focus</td>
<td>Student Nurses</td>
<td>48%</td>
<td>12-40-6-6</td>
</tr>
<tr>
<td></td>
<td>Pupil Nurses</td>
<td>75%</td>
<td>75-25</td>
</tr>
<tr>
<td></td>
<td>University Students</td>
<td>100%</td>
<td>100-100-100</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>1 2 3 4 5 6 7</td>
</tr>
<tr>
<td>c) Changed Too</td>
<td>Student Nurses</td>
<td>20%</td>
<td>20-47-20-13</td>
</tr>
<tr>
<td>Frequently</td>
<td>Pupil Nurses</td>
<td>12%</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td>University Students</td>
<td>72%</td>
<td>72-14-14</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>1 2 3 4 5 6 7</td>
</tr>
<tr>
<td>d) Very Explanatory</td>
<td>Student Nurses</td>
<td>27%</td>
<td>27-20-34-13-6</td>
</tr>
<tr>
<td></td>
<td>Pupil Nurses</td>
<td>12%</td>
<td>12-63-12-12</td>
</tr>
<tr>
<td></td>
<td>University Students</td>
<td>28%</td>
<td>28-44-14-14</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>1 2 3 4 5 6 7</td>
</tr>
</tbody>
</table>
8) The Activities in these Programme:

<table>
<thead>
<tr>
<th>Activity</th>
<th>Student Nurses</th>
<th>Pupil Nurses</th>
<th>University Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>Added to the Value of the Programme</td>
<td>20 27 20 33</td>
<td>25 25 38 12</td>
<td>29 57 14</td>
</tr>
<tr>
<td></td>
<td>% Were a Waste of Time</td>
<td>%</td>
<td>%</td>
</tr>
<tr>
<td>Were a Waste of Time</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Were Childish</td>
<td>33 13 13 41</td>
<td>12 12 63 12</td>
<td>14 14 14 14 14 30</td>
</tr>
<tr>
<td>% Were a Useful Form of Learning for an Adult</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gave One Time to Assimilate Facts and Ideas</td>
<td>27 20 27 20 6</td>
<td>38 12 26 12 12</td>
<td>14 29 29 14 14 14</td>
</tr>
<tr>
<td>% Interrupted the Continuity of the Programme</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
The Activities in these Programmes:

d) Were Difficult to Manipulate When Using Tapes and Slides

- Student Nurses, n = 15
- Pupil Nurses, n = 8

- University Students

% Were Not Too Difficult to Organise When Using Tapes and Slides

- Student Nurses, n = 15
- Pupil Nurses, n = 8

- University Students

% Were Enjoyable

% Were Aggravating

1 2 3 4 5 6 7
PART THREE C

9) Do you have any other general comments about the programme?

Student Nurses

S6 Would have been more valuable if I had done it in my first week on the ward as part of Introduction Programme. (Done during 4th week.)

S21 Very well presented.

Pupil Nurses

P6 The programme went on a bit and there wasn't really enough to hold my full concentration - the work book could have been used more to overcome this (i.e. more activities needed).

P9 Helpful and interesting.

University Students

U1 Useful lifting advice for early in the ward experience.

U3 Taught me a lot about the use of sandbags.

U7 Quite enjoyable. Didn't learn as much as I did from the other programmes.
5) The Tape Slide Programme I have just seen was:

<table>
<thead>
<tr>
<th></th>
<th>Student Nurses</th>
<th>Pupil Nurses</th>
<th>University Students</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Interesting</strong></td>
<td>29</td>
<td>43</td>
<td>14</td>
</tr>
<tr>
<td></td>
<td>n = 14</td>
<td>45</td>
<td>33</td>
</tr>
<tr>
<td><strong>Relevant to Ward Work</strong></td>
<td>29</td>
<td>21</td>
<td>43</td>
</tr>
<tr>
<td></td>
<td>n = 14</td>
<td>44</td>
<td>44</td>
</tr>
<tr>
<td><strong>Difficult to Understand</strong></td>
<td>7</td>
<td>7</td>
<td>14</td>
</tr>
<tr>
<td></td>
<td>n = 14</td>
<td>11</td>
<td>33</td>
</tr>
</tbody>
</table>
cont 5) The tape slide programme I have just seen was:

<table>
<thead>
<tr>
<th>Statement</th>
<th>Student Nurses n = 14</th>
<th>Pupil Nurses n = 9</th>
<th>University Students n = 7</th>
</tr>
</thead>
<tbody>
<tr>
<td>d) Easy to Organise</td>
<td>58 14 7 7 7 7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>e) Muddled</td>
<td>7 14 7 36 36</td>
<td></td>
<td></td>
</tr>
<tr>
<td>f) Taught Me a Lot</td>
<td>29 35 29 7</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
6) The Voice on the Programme was:

- **Student Nurses** \( n = 14 \)
  - a) Clear
    - Pupil Nurses \( n = 9 \)
    - University Students \( n = 7 \)
  
- **Pupil Nurses** \( n = 9 \)
  - Muffled

- **Student Nurses** \( n = 14 \)
  - b) Monotonous
    - Pupil Nurses \( n = 9 \)
    - University Students \( n = 7 \)
  
- **Pupil Nurses** \( n = 9 \)
  - Lively

- **Student Nurses** \( n = 14 \)
  - c) Too Fast
    - Pupil Nurses \( n = 9 \)
    - University Students \( n = 7 \)

- **Student Nurses** \( n = 14 \)
  - Too Slow
a) Interesting

<table>
<thead>
<tr>
<th></th>
<th>Student Nurses</th>
<th>Pupil Nurses</th>
<th>University Students</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n = 14</td>
<td>n = 9</td>
<td>n = 7</td>
</tr>
<tr>
<td></td>
<td>% Boring</td>
<td>% Blurred</td>
<td>% Not Changed</td>
</tr>
<tr>
<td>1</td>
<td>29</td>
<td>33</td>
<td>14</td>
</tr>
<tr>
<td>2</td>
<td>21</td>
<td>45</td>
<td>72</td>
</tr>
<tr>
<td>3</td>
<td>29</td>
<td>11</td>
<td>14</td>
</tr>
<tr>
<td>4</td>
<td>7</td>
<td>11</td>
<td>28</td>
</tr>
<tr>
<td>5</td>
<td>14</td>
<td>14</td>
<td>30</td>
</tr>
<tr>
<td>6</td>
<td></td>
<td></td>
<td>28</td>
</tr>
<tr>
<td>7</td>
<td></td>
<td></td>
<td>14</td>
</tr>
</tbody>
</table>

b) Clearly in Focus

<table>
<thead>
<tr>
<th></th>
<th>Student Nurses</th>
<th>Pupil Nurses</th>
<th>University Students</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n = 14</td>
<td>n = 9</td>
<td>n = 7</td>
</tr>
<tr>
<td></td>
<td>% Blurred</td>
<td>% Not Changed Often Enough</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>50</td>
<td>78</td>
<td>86</td>
</tr>
<tr>
<td>2</td>
<td>29</td>
<td>11</td>
<td>14</td>
</tr>
<tr>
<td>3</td>
<td>7</td>
<td>11</td>
<td>28</td>
</tr>
<tr>
<td>4</td>
<td>7</td>
<td>11</td>
<td>30</td>
</tr>
<tr>
<td>5</td>
<td>7</td>
<td>14</td>
<td>28</td>
</tr>
<tr>
<td>6</td>
<td>7</td>
<td>14</td>
<td>14</td>
</tr>
<tr>
<td>7</td>
<td></td>
<td></td>
<td>14</td>
</tr>
</tbody>
</table>

c) Changed Too Frequently

<table>
<thead>
<tr>
<th></th>
<th>Student Nurses</th>
<th>Pupil Nurses</th>
<th>University Students</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n = 14</td>
<td>n = 9</td>
<td>n = 7</td>
</tr>
<tr>
<td></td>
<td>% Not Changed</td>
<td>% Not Changed Often Enough</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>7</td>
<td>33</td>
<td>28</td>
</tr>
<tr>
<td>2</td>
<td>65</td>
<td>67</td>
<td>30</td>
</tr>
<tr>
<td>3</td>
<td>7</td>
<td>28</td>
<td>28</td>
</tr>
<tr>
<td>4</td>
<td>21</td>
<td>14</td>
<td>14</td>
</tr>
<tr>
<td>5</td>
<td></td>
<td></td>
<td>14</td>
</tr>
<tr>
<td>6</td>
<td></td>
<td></td>
<td>14</td>
</tr>
<tr>
<td>7</td>
<td></td>
<td></td>
<td>14</td>
</tr>
</tbody>
</table>

d) Very Explanatory

<table>
<thead>
<tr>
<th></th>
<th>Student Nurses</th>
<th>Pupil Nurses</th>
<th>University Students</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n = 14</td>
<td>n = 9</td>
<td>n = 7</td>
</tr>
<tr>
<td></td>
<td>% Not Explanatory At All</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>14</td>
<td>22</td>
<td>14</td>
</tr>
<tr>
<td>2</td>
<td>58</td>
<td>45</td>
<td>44</td>
</tr>
<tr>
<td>3</td>
<td>7</td>
<td>22</td>
<td>14</td>
</tr>
<tr>
<td>4</td>
<td>14</td>
<td>11</td>
<td>14</td>
</tr>
<tr>
<td>5</td>
<td></td>
<td></td>
<td>14</td>
</tr>
<tr>
<td>6</td>
<td></td>
<td></td>
<td>14</td>
</tr>
<tr>
<td>7</td>
<td></td>
<td></td>
<td>14</td>
</tr>
</tbody>
</table>
8) The Activities in these Programmes.-

<table>
<thead>
<tr>
<th>Student Nurses</th>
<th>n = 14</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Added to the Value of the Programme</td>
<td>22</td>
<td>50</td>
<td>7</td>
<td>7</td>
<td>14</td>
<td></td>
<td></td>
<td>% Were a Waste of Time</td>
</tr>
<tr>
<td>Pupil Nurses</td>
<td>n = 9</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>University Students</td>
<td>n = 7</td>
<td>72</td>
<td>28</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Student Nurses</th>
<th>n = 14</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>b) Were childish</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>% Were a Useful Form of Learning for an Adult</td>
</tr>
<tr>
<td>Pupil Nurses</td>
<td>n = 9</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>University Students</td>
<td>n = 7</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Student Nurses</th>
<th>n = 14</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>c) Gave One Time to Assimilate Facts and Ideas</td>
<td>14</td>
<td>14</td>
<td>29</td>
<td>36</td>
<td></td>
<td>7</td>
<td></td>
<td>% Interrupted the Continuity of the Programme</td>
</tr>
<tr>
<td>Pupil Nurses</td>
<td>n = 9</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>University Students</td>
<td>n = 7</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
cont 8) The Activities in these Programmes:

- **d) Were Difficult to Manipulate When Using Tapes and Slides**
  - Student Nurses, n = 14
    - 7: 28
    - 14: 7
  - Pupil Nurses, n = 9
    - 11
  - University Students, n = 7
    - 14

- **e) Were Enjoyable**
  - Student Nurses, n = 14
    - 14: 21
  - Pupil Nurses, n = 9
    - 35
  - University Students, n = 7
    - 44
PART FOUR

9) Do you have any other general comments about the programme?

Student Nurses
S4 Interesting and useful but too many of the same slides shown.
S12 I like the music which goes with these programmes!
S21 Very explanatory and useful information and nursing care which can be applied to ward experience.

Pupil Nurses
P9 I found all the tape slides helpful and in my opinion they make the learning more interesting. I think this type of learning should be introduced on other wards.
P10 Helpful to patient and nurse, interesting.
P11 A useful set of slides. A and P of spinal nerves I found difficult (horrid small print).

University Students
U1 Quality of tape improved with time, but some pictures had been seen before and the voice was a little fast when giving technical details.
U3 Very informing. A lot to take in in one go. It would have been better for me to do it in two halves. Maybe this should be suggested.
U5 As with all the programmes getting the slides in and out is fiddly and aggravating.
U7 Very good programme.
4th ed. (first published 1960)  

ACKERMANN, W.B. (1982) : "Technology and nursing education:  
a scenario for 1990".  

ADELMAN, C., JENKINS, D. and KEMMIS, S. (1977) : "Re-thinking  
case study: notes from the second Cambridge conference".  
in: Cambridge Journal of Education 6, pp.139-150.

ALEXANDER, M.F. (1980) : "Nurse education: an experiment in  
integration of theory and practice in nursing".  

Recent advances in nursing, 4: Nursing education, pp.56-80.  
Edinburgh, Churchill Livingstone.

ALEXANDER, M.F. (1982b) : "Integrating theory and practice in  
 nursing, part 1".  
in: Nursing Times (Occasional Paper) 78, 17, pp.65-68.

ALEXANDER, M.F. (1982c) : "Integrating theory and practice in  
nursing, part 2".  
in: Nursing Times(Occasional Paper) 78, 18, pp.69-71.

and practice".  
Edinburgh, Churchill Livingstone.

ALLPORT, G.W. (1942) : "The use of personal documents in  
psychological research".  
New York, Social Science Research Council.

London, Free Press.

BALY, M.E. (1973) : "Nursing and social change".  

in: Nursing Times 80, 17 October, pp.55-57.

test-- and retest procedures on the classroom  
performance of undergraduate college students".  
Lawrence (Kans), University of Kansas.


BENDALL, E.R.D. (1975) : "'So you passed, nurse': an exploration of some of the assumptions on which written examinations are based". London, Royal College of Nursing.


BIRCH, J. (1975) : "'To nurse or not to nurse': an investigation into the causes of withdrawal during nurse training". London, Royal College of Nursing.


BRIGGS, A. (Chairman) (1972) : "Report of the Committee on Nursing". Cmd 5115. HMSO.


COHEN, L. and D'INVERNO, R. (1977) : "Mathematics for engineers". 
in: Bridge, W.A. and Elton, L.R.B. (eds): Individual 
study in undergraduate science, pp.51-59. 

London, Croom Helm.

in: Topics in Clinical Nursing, October, pp.29-40.

study of the work of the charge nurse in acute admission 
wards of psychiatric hospitals". 
London, Royal College of Nursing.

COURT REPORT (1976) : "Fit for the future: Report of the Committee on Child Health Services". 
Cmnd 6684. 
HMSO.

COUTTS, L. and COHEN, L. (1983) : "Effects and results of different teaching methods". 
in: Nursing Times 79, 30 November, pp.32-36.

CROSS, K.P. (1974) : "The elusive goal of educational equality". 

CROWDER, N.A. (1959) : "Automatic tutoring by means of intrinsic programming in automatic teaching: the state of the art". 
New York, Wiley.


DAVIS, B.D. (1983a) : "A repertory grid study of formal and informal aspects of student nurse training". 

DAVIS, B.D. (1983b) : "Research into nurse education". 
London, Croom Helm.

Gainesville (Fla), University of Florida.

DEARDEN, G.J. (1979) : "Student learning and teacher intervention in an undergraduate engineering laboratory". 
University of Surrey (unpublished PhD thesis).

New York, McGraw-Hill.


ENB (March 1984) : "Press statement on a number of policy decisions". Circular (84)09. London, ENB.

ENB (November 1984) : "Examinations: basic general nurse training/education". London, ENB.

ENB (March 1985): "(1) Examinations in general nursing to qualify a person to apply to be registered in Part 1 of the Register" (circular); "(2) Examination procedures for courses in general nursing leading to registration in Part 1 of the Register". London, ENB.


ENB (May 1985): "Professional education/training courses". Consultation paper. London, ENB.


GNC (July 1977): "A statement of educational policy". GNC 77/19 and 77/19/A. London, GNC.


GNC 82/4.
London, GNC.

GNC (June 1983) : "Educational policy".
GNC 83/13 and 83/13/A.
London, GNC.

in: Journal of Continuing Education in Nursing 11, pp.57-59.


University of Surrey, Institute of Educational Development.

GILDER, R.S. (1985) : "Why pictures with words help the learner understand".
in: Media in Education and Development, June, pp.56-60.


GOETZ, J.P. and LeCOMPTE, M.D. (1984) : "Ethnography and qualitative design in educational research".
Orlando (Fla), Academic Press.

GOLDSCHMID, B. and GOLDSCHMID, M.L. (1973) : "Individualizing instruction in higher education: a review".


University of York, Centre for Health Economics.

GOODWIN, L.D. and GOODWIN, W.L. (1984) : "Qualitative vs quantitative research; or qualitative and quantitative research?"

GOTT, M. (1982) : "Learning nursing: a study of the effectiveness and relevance of teaching provided during student nurse introductory course".
University of Hull (unpublished PhD thesis).
London, Royal College of Nursing.

Los Angeles, University of California.

HAMILTON, D. (1973) : "At classroom level".


HARRISON, J., SAUNDERS, M.E. and SIMS, A. (1977) : "Integrating theory and practice in modular schemes for basic nurse education".
in: Journal of Advanced Nursing 2, pp.503-519.

HEGGE, M.L. (1973) : "Independent study in community health nursing".

HENDERSON, M.S. (1982) : "Recent advances in nursing, 4 : Nursing education".
Edinburgh, Churchill Livingstone.

HENDERSON, V. (1979) : "Principles of nursing care".

HER MAJESTY'S STATIONERY OFFICE (HMSO) (1979) : "Royal commission on the National Health Service" (Chairman: A. Merrison).
Cmd 7615.
HMSO.

HMSO (1983) : "The nurses, midwives and health visitors rules approval order".
S.I. 873.
HMSO.

London, Methuen.

HINCHLIFFE, S.M. (1979) : "Teaching clinical nursing".
Edinburgh, Churchill Livingstone.


HOGSTEL, M.O. (1976) : "A system for personalized instruction".
in: Nursing Outlook 24, 2, pp.110-114.

HOLLINGWORTH, S. (1985) : "Preparation for change: preparing nurse tutors in initial training for a change to nursing process".
London, Royal College of Nursing.

HORDER, Lord (1943) : "The nursing reconstruction committee". London, Royal College of Nursing.


JONES, D. (1975) : "Food for thought".  
London, Royal College of Nursing.

JONES, R. (1985) : "The twilight zone".  
in: Nursing Times 81, 22, pp.34-36.

JONES, W.J. (1981) : "Self-directed learning and student selected goals in nurse education".  

London, Royal College of Nursing.

KELLER, F.S. (1968) : "'Good-bye, teacher...""  
in: Journal of Applied Behavior Analysis 1, pp.78-79.

KING, I. (1971) : "Toward a theory of nursing".  
New York, Wiley.

St. Louis (USA), C.V. Mosby.

London, Croom Helm.

KULIK, J.A. and JAKSA, P. (1977) : "PSI and other educational technologies in college teaching".  

KULIK, J.A. and KULIK, C.L. (1975) : "Effectiveness of the personalised system of instruction".  


KULIK, J.A., KULIK, C.L. and SMITH, B. (1976) : "Research on the personalised system of instruction".  

London, Royal College of Nursing.

LANCASTER, A. (1972) : "Nurse teachers: report of an opinion survey".  
Edinburgh, Churchill Livingstone.

LANGE, C.M. (1972) : "Autotutorial techniques in nursing education".  
Englewood Cliffs (NJ), Prentice-Hall.


MAGOON, A.J. (1977) : "Constructivist approaches to educational research". 

MAINS, S. (1977) : "Introducing instructional innovations". 


MARSON, S.N. (1972) : "Sixteen years after Skinner". 
in: Midwives Chronicle and Nursing Notes, February, pp.37-42.

MARSON, S.N. (1977) : "The learning resources centre". 
in: Nursing Times 73, 21 April, pp.574-576.


MILES, M.B. and HUBERMAN, A.M. (1984) : "Drawing valid meaning from qualitative data: toward a shared craft". 

MINISTRY OF HEALTH (1958) : "Annual report". 
HMSO.

MINISTRY OF HEALTH (1966) : "Report of the Committee on senior nursing staff structure" (Chairman: B. Salmon). 
HMSO.

MOORE, M.G. (1975) : "Cognitive style and telemathic (distant) teaching". 
in: ICCE Newsletter 5, 4, pp.3-10.

MYERS, L.B. and GREENWOOD, S.E. (1978) : "Use of traditional and autotutorial instruction in fundamentals of nursing courses". 
in: Journal of Nursing Education 17, 3, pp.7-13.

NATHENSON, M.B. and HENDERSON, E.S. (1980) : "Using student feedback to improve learning materials". 
London, Croom Helm.

Report of the Open University's 10th Anniversary International Conference. 
Milton Keynes, Open University Press.


PADUANO, M.A. (1979) : "Introducing independent study into the nursing curriculum". in: Journal of Nursing Education 18, 4, pp.34-37.


PENSIVY, B.A. (1977) : "Traditional versus individualized nursing instruction: comparison of State Board examination scores as a result of these two methods of nursing instruction". in: Journal of Nursing Education 16, 2, pp.14-18.


REID, N.G. (October 1983) : "The effective training of nurses: manpower implications". Royal College of Nursing, Professional Nursing Dept.


RIST, R.C. (1977): "On the relations among educational research paradigms: from disdain to détente".
in: Anthropology and Educational Quarterly 8, pp.42-49.

RIST, R.C. (1980): "Blitzkrieg ethnography: on the transformation of a method into a movement".
in: Educational Researcher 9, 2, pp.8-10.


ROBERTSON, C.M. (1980): "Clinical teaching".
London, Pitman.

in: Nurse Education Today 4, 5, pp.100-103.


RCN (1981) (Darwin): "'To teach or not to teach? That is the question'".
London, RCN.


STUBBS, D.A. et al. (1980) : "Prevention of back pain in nursing". Paper presented at Conference organised by the Nursing Practice Research Unit, Northwick Park Hospital and Clinical Research Centre, Back Pain Association and DHSS, held at Northwick Park Hospital, Harrow, September.


WILLOUGHBY, L. and BOUD, D.J. (1973) : "Keller plan courses at the University of Surrey: some findings". Paper presented at Conference on Changing Science Courses, Thames Polytechnic.


