An Exploration of the Texture of Student Midwives' Non-Formal Learning in Professional Practice

by

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ABSTRACT

This thesis explores the transmission of craft knowledge in midwifery, examining the mediation of practice learning within mentor/student pairs. It is an in-depth exploration of non-formal learning as perceived by a sample of student midwives at various stages of their preparation programmes across England. The theoretical underpinning stems from literature on non-formal learning, incorporating Eraut's analysis of non-formal learning and Polanyi's philosophy of tacit knowledge.

A sample of fourteen student midwives recorded their experiences of learning and support in clinical practice for ten days in audio-diary format. The diaries were analysed within a narrative analysis framework to capture the 'voice' of the learners, who described the challenges inherent in learning and acquiring the craft of midwifery.

Discourse analysis was used to interrogate the data. This method enabled discovery of pattern and order in everyday language-in-use. Unique information emerged within students' individual interpretive repertoires. The lengthy audio-diaries illuminated contexts and linguistic expressions which conveyed the socio-cultural positioning of the student midwives. The method was found to be compatible with non-formal learning and the epistemological perspective selected because of the organic nature of craft knowledge.

Student midwives' reflexive accounts identified a range of 'tools' used by mentors, which influenced acquisition of practical competence and cognition. These tools included not only physical teaching aids, but also signs, modelling and other means of semiotic mediation. This thesis reveals the power of formative learning and situated support in midwifery practice. An argument is developed for mobilising hidden, tacit knowledge which often exists on the borders of the formal curriculum.
ACKNOWLEDGEMENTS

My gratitude goes to the student midwives who generously gave their time and commitment to complete diaries, providing vital views concerning the ‘texture’ of non-formal learning in midwifery practice.

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Friends and family have demonstrated love and tolerance, especially my parents, Marian and Vince Criscuolo and, of course, Gez and Sam. Heather Bower provided a sanctuary and offered personal support and professional expertise at a crucial time.

I am grateful to the University of Surrey for financial support for this research.

Lastly, thanks to Professor Arlie Hochschild for encouraging me to ‘sing my song’!

Dedication

This thesis is about the art of mentoring and is dedicated to the memory of Liz Cooke whose mentoring profoundly influenced my practice. She died so young but her legacy lives on for those who attended home births with her in Brighton and Hove. Liz provided a map and ‘talisman’ through her skilful mediation and enduring gift of practical wisdom.
<table>
<thead>
<tr>
<th>Figure</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Figure 1</td>
<td>Operational descriptions of informal and formal learning used in thesis</td>
<td>3</td>
</tr>
<tr>
<td>Figure 2</td>
<td>Possible learning situations. Jarvis, 2004, p 82</td>
<td>5</td>
</tr>
<tr>
<td>Figure 3</td>
<td>Uterus and fetus at seven months from 'la machine de Madame du Coudray', Point de Vues 2004, p 37.</td>
<td>36</td>
</tr>
<tr>
<td>Figure 4</td>
<td>A typology for holistic professional practice knowledge. From Titchen 1998, p 107.</td>
<td>62</td>
</tr>
<tr>
<td>Figure 5</td>
<td>Models of cognitive knowledge. From Lam 1998, p 43.</td>
<td>66</td>
</tr>
<tr>
<td>Figure 6</td>
<td>Conceptualisation of clinical environment spaces. Dalton 2005, p 128.</td>
<td>71</td>
</tr>
<tr>
<td>Figure 7</td>
<td>Process of tacit knowledge, showing underpinning by formal knowledge. From Welsh and Lyons 2000 p 3.</td>
<td>83</td>
</tr>
<tr>
<td>Figure 8</td>
<td>A typology of non-formal learning from Eraut 2000 p 116.</td>
<td>93</td>
</tr>
<tr>
<td>Figure 9</td>
<td>Converting tacit knowledge. From Lowe 2004 p 2.</td>
<td>110</td>
</tr>
<tr>
<td>Figure 10</td>
<td>Typology of non-formal learning</td>
<td>161</td>
</tr>
<tr>
<td>Figure 11</td>
<td>Unrecorded linguistic elements of midwifery practice</td>
<td>231</td>
</tr>
<tr>
<td>Figure 12</td>
<td>Bridge of Trust. Adapted from Havani, 2005.</td>
<td>251</td>
</tr>
<tr>
<td>Figure 13</td>
<td>Techniques and tools for mediating learning</td>
<td>262</td>
</tr>
<tr>
<td>Figure 14</td>
<td>Moustakas' (1990) model for research</td>
<td>268</td>
</tr>
<tr>
<td>Figure 15</td>
<td>Model for reflection within a dyad</td>
<td>270</td>
</tr>
<tr>
<td>Figure 16</td>
<td>The learning\caring interface</td>
<td>276</td>
</tr>
</tbody>
</table>
LIST OF TABLES

| Table 1 | Changes in the length of midwifery training | Magill-Cuerden, 2004, p22 | 38 |
| Table 2 | Overview of data collected by Pope et al, 2003, p27 | 55 |
| Table 3 | The transfer process in complex situations | Eraut, 2004, p58 | 95 |
| Table 4 | Methods of elicitation of expert knowledge | Olsen & Biolsi, 1991, p242 | 99 |
| Table 5 | A ladder of inference | Marsick & Watkins, 1990, p173 | 106 |
| Table 6 | Comparison of Japanese-style vs Western style knowledge creation | Nonaka & Takeuchi, 1995, p100 | 113 |
| Table 7 | Demographic details of the participants | | 125 |
| Table 8 | Summary of contextual language used by student midwives in diaries | | 249 |
| Table 9 | What influences absorption of non-formal learning? | | 274 |
## ABBREVIATIONS

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Full Form</th>
</tr>
</thead>
<tbody>
<tr>
<td>CNA</td>
<td>Canadian Nurses Association</td>
</tr>
<tr>
<td>DH</td>
<td>Department of Health</td>
</tr>
<tr>
<td>ENB</td>
<td>English National Board</td>
</tr>
<tr>
<td>HEI</td>
<td>Higher Education Institution</td>
</tr>
<tr>
<td>LFTs</td>
<td>Liver Function Tests</td>
</tr>
<tr>
<td>LME</td>
<td>Lead Midwife for Education</td>
</tr>
<tr>
<td>MREC</td>
<td>Multiple Research Ethics Committee</td>
</tr>
<tr>
<td>NFL</td>
<td>Non-formal Learning</td>
</tr>
<tr>
<td>NMC</td>
<td>Nursing and Midwifery Council</td>
</tr>
<tr>
<td>RCM</td>
<td>Royal College of Midwives</td>
</tr>
<tr>
<td>RCN</td>
<td>Royal College of Nursing</td>
</tr>
<tr>
<td>REG</td>
<td>Registrar (Specialist Practice)</td>
</tr>
<tr>
<td>TOP</td>
<td>Termination of Pregnancy</td>
</tr>
<tr>
<td>UKCC</td>
<td>United Kingdom Central Council</td>
</tr>
</tbody>
</table>
# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abstract</td>
<td>ii</td>
</tr>
<tr>
<td>Acknowledgements</td>
<td>iii</td>
</tr>
<tr>
<td>List of Figures</td>
<td>iv</td>
</tr>
<tr>
<td>List of Tables</td>
<td>v</td>
</tr>
<tr>
<td>List of Abbreviations</td>
<td>vi</td>
</tr>
<tr>
<td>1.0 Chapter One: Introduction</td>
<td>1</td>
</tr>
<tr>
<td>1.1.0 The context for exploring non-formal learning</td>
<td>1</td>
</tr>
<tr>
<td>1.2.0 Defining the terms</td>
<td>2</td>
</tr>
<tr>
<td>1.3.0 Rationale</td>
<td>9</td>
</tr>
<tr>
<td>1.4.0 The uniqueness of spoken narratives</td>
<td>11</td>
</tr>
<tr>
<td>1.5.0 Objectives of the research</td>
<td>14</td>
</tr>
<tr>
<td>1.6.0 Structure of the thesis</td>
<td>17</td>
</tr>
<tr>
<td>1.7.0 Summary</td>
<td>19</td>
</tr>
<tr>
<td>2.0 Chapter Two: Background and Rationale</td>
<td>21</td>
</tr>
<tr>
<td>2.1.0 Introduction</td>
<td>21</td>
</tr>
<tr>
<td>2.2.1 The culture of midwifery practice in England</td>
<td>24</td>
</tr>
<tr>
<td>2.2.2 Women as service users</td>
<td>26</td>
</tr>
<tr>
<td>2.2.3 Current systems of maternity care</td>
<td>27</td>
</tr>
<tr>
<td>2.2.4 Patterns of working</td>
<td>28</td>
</tr>
<tr>
<td>2.3.1 Midwifery education in England</td>
<td>31</td>
</tr>
<tr>
<td>2.3.2 Developments in work-based learning</td>
<td>34</td>
</tr>
<tr>
<td>2.3.3 Apprenticeship</td>
<td>35</td>
</tr>
<tr>
<td>2.3.4 Mentorship</td>
<td>40</td>
</tr>
<tr>
<td>2.6.0 Summary</td>
<td>59</td>
</tr>
<tr>
<td>3.0 Chapter Three: Literature Review</td>
<td>60</td>
</tr>
<tr>
<td>3.1.0 Introduction</td>
<td>60</td>
</tr>
<tr>
<td>3.2.1 Part One: The nature of practice knowledge</td>
<td>61</td>
</tr>
<tr>
<td>3.2.2 Knowing-how</td>
<td>63</td>
</tr>
<tr>
<td>3.3.0 Individual knowledge</td>
<td>66</td>
</tr>
<tr>
<td>3.3.1 Embrained knowledge</td>
<td>67</td>
</tr>
<tr>
<td>3.3.2 Craft knowledge</td>
<td>67</td>
</tr>
<tr>
<td>3.3.3 Embodied knowledge</td>
<td>69</td>
</tr>
<tr>
<td>3.3.4 The intimate space</td>
<td>71</td>
</tr>
<tr>
<td>3.3.5 Emotional competence and skills</td>
<td>72</td>
</tr>
<tr>
<td>3.3.6 Seeking the professional voice</td>
<td>75</td>
</tr>
<tr>
<td>3.3.7 Biography and individual learning history</td>
<td>76</td>
</tr>
<tr>
<td>3.3.8 Memory and learning</td>
<td>77</td>
</tr>
<tr>
<td>3.3.9 Implicit knowledge and implicit understanding</td>
<td>78</td>
</tr>
<tr>
<td>3.3.10 Tacit knowledge</td>
<td>79</td>
</tr>
<tr>
<td>3.3.11 Intuition</td>
<td>83</td>
</tr>
<tr>
<td>3.3.12 Reflexivity and learning</td>
<td>84</td>
</tr>
</tbody>
</table>
## Part Two: Mediating learning and transmitting craft knowledge

<table>
<thead>
<tr>
<th>Section</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.4.0</td>
<td>Defining embedded knowledge</td>
<td>87</td>
</tr>
<tr>
<td>3.4.1</td>
<td>Encoded knowledge</td>
<td>87</td>
</tr>
<tr>
<td>3.4.2</td>
<td>Mobilising knowledge</td>
<td>88</td>
</tr>
<tr>
<td>3.4.3</td>
<td>Experiential learning</td>
<td>88</td>
</tr>
<tr>
<td>3.4.4</td>
<td>Situated learning within communities of practice</td>
<td>89</td>
</tr>
<tr>
<td>3.4.5</td>
<td>Managing learning in unpredictable service conditions</td>
<td>90</td>
</tr>
<tr>
<td>3.4.6</td>
<td>Teaching styles</td>
<td>91</td>
</tr>
<tr>
<td>3.4.7</td>
<td>The hidden curriculum</td>
<td>91</td>
</tr>
<tr>
<td>3.5.0</td>
<td>Non-formal learning theories</td>
<td>93</td>
</tr>
<tr>
<td>3.6.0</td>
<td><strong>Elicitation of knowledge</strong></td>
<td>96</td>
</tr>
<tr>
<td>3.6.1</td>
<td>Traditional apprenticeship</td>
<td>96</td>
</tr>
<tr>
<td>3.6.2</td>
<td>Cognitive apprenticeship</td>
<td>96</td>
</tr>
<tr>
<td>3.6.3</td>
<td>Modelling</td>
<td>96</td>
</tr>
<tr>
<td>3.6.4</td>
<td>Scaffolding</td>
<td>97</td>
</tr>
<tr>
<td>3.6.5</td>
<td>Fading</td>
<td>100</td>
</tr>
<tr>
<td>3.6.6</td>
<td>Coaching</td>
<td>100</td>
</tr>
<tr>
<td>3.6.7</td>
<td>Vygotsky's educational theories</td>
<td>101</td>
</tr>
<tr>
<td>3.6.8</td>
<td>Defining the zone of proximal development</td>
<td>103</td>
</tr>
<tr>
<td>3.6.9</td>
<td>Semiotic mediation</td>
<td>104</td>
</tr>
<tr>
<td>3.7.0</td>
<td><strong>Articulation of knowledge</strong></td>
<td>105</td>
</tr>
<tr>
<td>3.7.1</td>
<td>Ladder of inference</td>
<td>106</td>
</tr>
<tr>
<td>3.7.2</td>
<td>Knowledge maps</td>
<td>106</td>
</tr>
<tr>
<td>3.7.3</td>
<td>Concept clinics</td>
<td>107</td>
</tr>
<tr>
<td>3.7.4</td>
<td>Professional stories and narratives</td>
<td>107</td>
</tr>
<tr>
<td>3.7.5</td>
<td>Metaphor</td>
<td>108</td>
</tr>
<tr>
<td>3.7.6</td>
<td>Feedback</td>
<td>109</td>
</tr>
<tr>
<td>3.7.7</td>
<td>Collective tacit knowledge</td>
<td>110</td>
</tr>
<tr>
<td>3.7.8</td>
<td>Codifying tacit knowledge</td>
<td>112</td>
</tr>
<tr>
<td>3.7.9</td>
<td>Managing tacit knowledge in institutions</td>
<td>112</td>
</tr>
<tr>
<td>3.8.0</td>
<td>Expansive learning environments</td>
<td>116</td>
</tr>
<tr>
<td>3.9.0</td>
<td>Summary</td>
<td>117</td>
</tr>
</tbody>
</table>

## Chapter Four: Methods and design of the research

<table>
<thead>
<tr>
<th>Section</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.0</td>
<td><strong>Introduction</strong></td>
<td>118</td>
</tr>
<tr>
<td>4.1.0</td>
<td>Description of the methods</td>
<td>119</td>
</tr>
<tr>
<td>4.1.1</td>
<td>Diaries</td>
<td>119</td>
</tr>
<tr>
<td>4.1.2</td>
<td>Piloting the diary</td>
<td>120</td>
</tr>
<tr>
<td>4.1.3</td>
<td>Distinctions between national and individual research approach</td>
<td>121</td>
</tr>
<tr>
<td>4.2.0</td>
<td>Use of a discourse analytic technique</td>
<td>122</td>
</tr>
<tr>
<td>4.2.1</td>
<td>Selecting the sample</td>
<td>123</td>
</tr>
<tr>
<td>4.2.2</td>
<td>Criteria for inclusion and exclusion</td>
<td>126</td>
</tr>
<tr>
<td>4.3.0</td>
<td>Discussion of practicalities of using diaries</td>
<td>130</td>
</tr>
<tr>
<td>4.3.1</td>
<td>The process of journaling</td>
<td>131</td>
</tr>
<tr>
<td>4.3.2</td>
<td>Limitations of diaries</td>
<td>135</td>
</tr>
<tr>
<td>4.4.0</td>
<td>Narrative analysis framework</td>
<td>136</td>
</tr>
<tr>
<td>4.5.0</td>
<td>Discourse analysis</td>
<td>139</td>
</tr>
<tr>
<td>4.5.1</td>
<td>Interpreting the material</td>
<td>145</td>
</tr>
<tr>
<td>4.5.2</td>
<td>Interpretive repertoires</td>
<td>148</td>
</tr>
</tbody>
</table>
### Chapter Five: Analysis of diary data

<table>
<thead>
<tr>
<th>Section</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.0</td>
<td>Introduction</td>
<td>160</td>
</tr>
<tr>
<td>5.1.0</td>
<td>Part One: Language used by students to describe learning</td>
<td>163</td>
</tr>
<tr>
<td>5.2.0</td>
<td>Part Two: Techniques used by mentors: Students' perceptions</td>
<td>194</td>
</tr>
<tr>
<td>5.3.0</td>
<td>Summary</td>
<td>223</td>
</tr>
</tbody>
</table>

### Chapter Six: Discussion

<table>
<thead>
<tr>
<th>Section</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>6.0</td>
<td>Introduction</td>
<td>224</td>
</tr>
<tr>
<td>6.1.0</td>
<td>Part One: Language used by students</td>
<td>224</td>
</tr>
<tr>
<td>6.2.0</td>
<td>Language of fear</td>
<td>232</td>
</tr>
<tr>
<td>6.2.1</td>
<td>Language of containment</td>
<td>233</td>
</tr>
<tr>
<td>6.2.2</td>
<td>Language of intrusion</td>
<td>236</td>
</tr>
<tr>
<td>6.2.3</td>
<td>Language of tacit understanding</td>
<td>238</td>
</tr>
<tr>
<td>6.2.4</td>
<td>Language of descriptive metaphor</td>
<td>242</td>
</tr>
<tr>
<td>6.2.5</td>
<td>Language of conflict and confusion</td>
<td>244</td>
</tr>
<tr>
<td>6.2.6</td>
<td>Language of empathy</td>
<td>245</td>
</tr>
<tr>
<td>6.2.7</td>
<td>Language of negotiation</td>
<td>246</td>
</tr>
<tr>
<td>6.2.8</td>
<td>Language of friendship and companionship</td>
<td>247</td>
</tr>
<tr>
<td>6.3.0</td>
<td>Part Two: Techniques used by mentors: Students' perceptions</td>
<td>250</td>
</tr>
<tr>
<td>6.3.1</td>
<td>Scaffolding learning</td>
<td>252</td>
</tr>
<tr>
<td>6.3.2</td>
<td>Fading</td>
<td>266</td>
</tr>
<tr>
<td>6.4.0</td>
<td>Part Three: The influence of institutional contexts on learning</td>
<td>272</td>
</tr>
<tr>
<td>6.5.0</td>
<td>Summary</td>
<td>278</td>
</tr>
</tbody>
</table>

### Chapter Seven: Conclusion

<table>
<thead>
<tr>
<th>Section</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>7.0</td>
<td>Introduction</td>
<td>279</td>
</tr>
<tr>
<td>7.1.0</td>
<td>What is missing in the mentoring?</td>
<td>280</td>
</tr>
<tr>
<td>7.2.0</td>
<td>Unacknowledged pathways to cognition</td>
<td>281</td>
</tr>
<tr>
<td>7.3.0</td>
<td>Centrality of the mentor/student dyad</td>
<td>281</td>
</tr>
<tr>
<td>7.4.0</td>
<td>Mindful mentoring</td>
<td>281</td>
</tr>
<tr>
<td>7.5.0</td>
<td>Making space for formative dialogues</td>
<td>283</td>
</tr>
<tr>
<td>7.6.0</td>
<td>Recommendations</td>
<td>284</td>
</tr>
<tr>
<td>7.7.0</td>
<td>Summary</td>
<td>289</td>
</tr>
</tbody>
</table>

### Appendices

<table>
<thead>
<tr>
<th>Section</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>291</td>
</tr>
</tbody>
</table>

### References

<table>
<thead>
<tr>
<th>Section</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>331</td>
</tr>
</tbody>
</table>
CHAPTER ONE

INTRODUCTION

Mentors give us the magic that allows us to enter the darkness: a talisman to protect us from evil spells, a gem of wise advice, a map, and sometimes simply courage...a midwife to our dreams.

Daloz, 1990, p 17.

1.1 The context for exploring non-formal learning

The purpose of this chapter is to introduce how the thesis will contribute to new knowledge related to non-formal learning and the multiple modes of transmission of midwifery craft knowledge. Operational definitions of the sort of learning that is explored in this research will be presented. The rationale for undertaking the research is described, as it would appear that an exploration of specific non-formal components of learning has not previously been undertaken. The recent emphasis on mentorship and standards for teaching in practice (NMC, 2006) makes this a timely addition to the evidence base on relational learning and strategies for passing on midwifery craft know-how.

Workplace learning and mentorship are currently high on the Department of Health and Higher Education agendas (DH, 2006). Much 'skilled everyday knowing' is central to practice and yet is frequently taken-for-granted. The subject of this research is therefore an examination of the knowledge which is socially constructed and socially mediated between student midwives and their 'named' or allocated midwife mentors. The research explores how craft knowledge is transferred and how it is managed using perceptions of a sample of student midwives. What are the perceived strategies for instruction to promote safe, competent practice in midwifery settings and how are the teaching and assessment methods delivered? The everyday practice know-how is rarely recorded so this research presents 'real world' expressions of midwifery practice, offering insightful vocabularies, validated through use of educational and philosophical frameworks. This qualitative exploration does include the hidden (or covert) curriculum but the central focus is an investigation of the 'tools' recorded as being useful for student midwives' development of non-formal learning, how students applied this mediated knowledge and the extent to which this knowledge was used, with potential to be transferred to new situations. The tools for instruction include not only physical teaching aids but also signs
(for example, gestures and non-verbal signals), modelling and other means of semiotic mediation. Practice knowledge as a subject has become increasingly topical across the health professions. There is potential, therefore, for wider application of the findings deriving from this piece of research.

Through involvement as a Research Midwife in a large national study, which investigated teaching and learning in midwifery practice (Pope et al., 2003), I developed an interest in elements of ‘craft knowledge’ and ‘practice wisdom’ which cannot be easily learnt by student midwives through text books, e-learning or formal lectures. A large component of midwives’ practical skill comprises non-formal (and implicit) knowledge which is not formally tested. It is the non-formal learning and knowledge which form the basis of this thesis.

1.2 Defining the terms
Non-formal learning is often confused with informal learning. Both involve personal, highly situated learning. The two can be distinguished by first outlining the characteristics of formal learning:

- This takes place in formal institutions, which are often bureaucratic (Jarvis, 1987).
- Additionally, institutions frequently have control over objectives and the means of learning.
- Formal learning involves tangible, measurable assessment.
- Learning within a formal domain also demands having a prescribed framework, the presence of a teacher, defined learning outcomes and perhaps awards in the form of a qualification or credits (Eraut, 2000).

Whilst formal knowledge is highly regarded for the application of theory and technique derived from scientific knowledge (Schön, 1987), the non-formal knowledge may not be articulated because it is not codified and is so context-specific. It is described as:

A category used to describe any kind of learning which does not take place within a formally organised learning programme or event.

Eraut, 2000, p 114.
Non-formal learning is said to be contextual in character, comprising taken for granted know-how which is partly tacit and often difficult to verbalise. It is frequently unstructured in nature (Marsick & Watkins, 2001). What is significant, however, and has been emphasised by Eraut (2000), is the potential for non-formal learning to lead to intentional, deliberative learning. The difference is that the non-formal can be planned whereas informal learning is often spontaneous, leading to reactive learning which is unreflective and subjective.

The diagram below defines terms related to non-formal learning as used throughout this thesis:

**Figure 1. Operational descriptions of informal and formal learning used in thesis**

- **Informal Learning**
  - 83% of learning occurs informally (Marsick & Watkins 1990)
  - It includes incidental learning
  - It is often spontaneous
  - It can lead to assumptions and beliefs
  - Can involve subjective emotions
  - Reactive, non-reflective

- **Incidental learning**
  - A subset of informal learning
  - The by-product of another activity
  - Usually unintentional

- **Non-formal learning**
  - Is distinctive and superior to informal
  - It can be planned
  - Has explicit components
  - Personal but may be codified
  - Potential to be intentional, deliberative
Colley *et al* (2002) purport that the western world has traditionally favoured formal learning theories. However, as science and rationality were applied to learning, developments in more ‘primitive and simple everyday learning’ began to be recognised. Lave and Wenger (1991) proposed that learning could, in fact, be more effective and possibly more sophisticated if it took place through informal processes. There has been increasing interest in recent years in the forms of learning that take place in informal action environments such as the workplace.

Colley *et al* (2002) emphasise the shift needed to recognise equal valuing of the process of learning alongside the acquisition of knowledge. With national policies to widen participation of adult learners in higher education institutions, more emphasis is starting to be placed on non-formal aspects of education. Current debates on this subject are centering on the art of blending formal and non-formal aspects of learning in professional practice (Beckett and Hager, 2002). One means of achieving this blending is through adapting mentoring styles. The potential outcomes which emerge from examining mentoring in the workplace are pivotal to my research.

Davies (2003) intimates that with the exponential growth in new knowledge, combined with the emphasis on lifelong learning, previously unrecognised sites of learning need to be acknowledged. The traditional function of universities is being challenged as assessment of non-formal learning is having to be considered. Aittola (1999) asserts that some learning experiences which take place informally can be highly significant to the learner (for example, learning from mistakes) but the nature of standard formal education may hinder the recognition of informal learning processes.

The degree to which learning is intended or not intended is said to be the key to how active learning is (Jarvis, 2004) and consequently how transformation into deliberative, planned learning occurs. This is because so many factors within a learning environment are not controllable or totally predictable. Jarvis (2004) even suggests that some taken-for-granted instances can actually lead to non-learning.

His matrix demonstrates the range of possible learning situations but still neglects to emphasise the role of the mentor in guiding students through the learning situations. What is useful within the matrix is the focus on whether learning is 'intended' or 'not
intended'. There appears to be a contradiction, however, with Box C, which implies that informal learning can be intentional:

Figure 2. Possible learning situations. Jarvis, 2004, p 108.

<table>
<thead>
<tr>
<th>Type of situation</th>
<th>INTENDED</th>
<th>INCIDENTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Formal</td>
<td>A</td>
<td>D</td>
</tr>
<tr>
<td>Non-formal</td>
<td>B</td>
<td>E</td>
</tr>
<tr>
<td>Informal</td>
<td>C</td>
<td>F</td>
</tr>
</tbody>
</table>

Box A: Formal, intended learning -often occurs in an institution
Box F: Informal, incidental learning—often refers to everyday learning occurring in new situations
Boxes B and E are of particular interest for this thesis:
Box B: Non-formal intended learning—refers to the ongoing nature of learning that occurs in, for example, NHS Trusts, with support from mentors
Box E: Refers to incidental learning situations in non-formal learning episodes.

Gouthro and Plumb (2003) suggest that non-formal learning is often treated as a 'derivative of formal learning so is secondary to formal learning processes. There appears to be paucity in the literature regarding how formal and non-formal learning processes inter-relate.

Examples of non-formal learning opportunities of relevance to this research are:
Ward rounds, handovers, informal conversations regarding specific cases in the workplace, stories relating professional incidents, ad hoc visits, for example, to community clinics or case conferences. Formative assessment meetings also provide a
platform for non-formal learning. These are all situations which have potential for craft knowledge to be passed on and transmitted to learners.

Marsick and Watkins (1990) have devised a learning cone, which comprises four levels of learning. The first is the individual, the second is the group, the third is the organisation and the final level is the professional group where learning is often influenced by norms set outside the organisation. Although learning can apparently take place at several of these levels simultaneously, there appears to be a lack of attention to the nature of learning in a dyad or pair. Vygotsky's (1956, 1978) theories concerning the zone of proximal development are obviously relevant but for adult learning, there is a necessity for understanding of one's individual learning.

For the midwifery profession to progress, it will be beneficial to make inroads into exploring the discourses immersed in non-formal learning situations. Mentors are key to facilitating this challenging process so that students can learn in creative and meaningful ways. Practical knowledge needs to come from experienced midwives who have skills in facilitating clinical practice (Ohrling & Halberg 2000, Spouse 2001a) so that students make sense of the non-formal elements of their clinical learning.

To help capture the reality of practice learning, student midwives were invited to complete learning diaries as part of a national midwifery education project (Pope et al 2003). Most students provided detailed accounts of the experiential elements of learning (including relational aspects involving their mentors) over ten days during one practice placement. The diary segments brought to this research will demonstrate a variety of levels of competence, creative thinking and sometimes practical intelligence which students articulated. Non-formal learning experiences have previously been devalued and yet, as Boud et al (1993) suggest, significant personal learning experiences are a powerful force in learning and help us reframe our practice. It is the personal learning which can assist learners in dealing with experiential variation.

My specific involvement in the national study involved co-ordinating three out of five case studies across England. Professor Rosemary Pope was the principal investigator and secured the three year funding from the Hospital Saving Association Charitable
Trust. The Senior Midwifery Research Fellow left and I took over project management in 2002.

Although I was employed as the main research midwife on the national midwifery education study, it was never intended that any doctoral work would be undertaken which was directly connected. I was initially keen to investigate user involvement as the service user agenda was gathering momentum in 2001, when I registered on the doctoral programme. However, from 2002-2004, I presented data and findings from the national research study to a range of audiences at numerous conferences in the United Kingdom, Europe and the United States. Questions and comments from the audiences often centred on the powerful language used by student midwives in their audio-diaries and the potential for changing the medium for reflection on practice. This led to writing an article for publication, which focused on language used by student midwives, which has since been published (Finnerty and Pope, 2005). To strengthen the article, I used Eraut’s (2000) typology of non-formal learning as a framework and my supervisors suggested there was potential for an in-depth study at doctoral level because no work had previously been published in the midwifery literature in this area. It was agreed that, if the diaries were totally re-analysed, it was acceptable to undertake a separate study as it would have an entirely new focus. Professor Pope expressed particular enthusiasm because a separate study had not been anticipated yet re-interpretation of so many hours of audio-data had possibilities for providing new information. Additionally, I had been passionate about the potential for audio-diaries to provide new knowledge about practice from the outset. I am grateful to Lesley Graham (Research Fellow and Project Manager) for the suggestion to use discourse analysis as a method to analyse the data.

As Higgs and Titchen (2001) suggest, much professional craft knowledge has not traditionally been articulated, documented or valued. This creates a lack of clarity regarding processes for acquiring knowledge of this nature. The subject therefore merits study because there is a current emphasis on adequacy of quality learning support and supervision in both nursing and midwifery practice (Pellatt 2006, NMC 2006). Mentor preparation needs to be cutting edge to meet needs of the modern agenda, yet thorough in delivering a curriculum which encompasses principles for teaching, supervising and assessing all forms of knowledge. The intention of this study is also to inform theories surrounding midwifery knowledge. This is because much of this knowledge has
traditionally been invisible and the more tacit forms have been suppressed (Ohlen and Holm, 2005). There is now a need to demystify this previously silenced, tacit knowledge.

Polanyi (1958) defines tacit knowledge as 'that which we cannot tell'. It is frequently described as highly personal and hard to formalise because it comprises 'inchoate, unarticulated and unexpressed understanding' (Darling, 1998). Polanyi (1958) uses examples of riding a bike, playing the piano or recognising a face in a crowd (physiognomy) to explain his theories of comprehension through interiorisation and indwelling. How do we distinguish parts of the whole from the whole? It is tacit powers which are needed for comprehension and to interpret the world. The rationale for inclusion of this form of knowledge within a non-formal learning framework is that tacit ways of knowing form a large part of transmission of expertise. The tacit dimension of knowledge will be discussed in more depth within the review of the literature in Chapter Three.

In this thesis I will show illustrations of the power of the unstated background knowledge and its importance for the professional identity and deportment of midwives. The thesis will also demonstrate that mentors have a significant role to play in assisting with 'surfacing' of non-formal practice knowledge for students' learning. In addition, recommendations will be made for strengthening formative assessment processes in a range of midwifery practice settings. It is anticipated that, through addressing these elements using sound theoretical frameworks, advances can be made in bridging the theory practice 'schism' (Spouse, 2001b), for the benefit of the student midwives and the women and families they participate in caring for.
1.3 Rationale for the study

In 1984, Patricia Benner suggested that nurses were poor at recording their knowledge and activity:

Nurses have not been careful record keepers of their own clinical learning.
Benner, 1984, p 1.

The significance of experience, both formal and non-formal in nature, deserves further detailed study. This research is an in-depth exploration of unusual language used by student midwives to describe the realities of learning the 'craft' of midwifery. The purpose is to offer the student midwives a voice through presentation and systematic analysis of their discourses. Benner's (1984) seminal study investigated nurses' movement from novice to expert. I would agree that it is timely for midwives to be 'careful record keepers' of both their practice and learning for the ongoing survival of the midwifery profession.

The central research question is therefore:

How do midwives pass on their practical knowledge when mentoring student midwives in clinical practice?

By this I mean what specific mechanisms do midwife mentors use to transfer this practical know-how when supporting students on placements? And what actual strategies do they use to convey the craft knowledge and instill best practice? Explicit, formal knowledge is still privileged over craft knowledge (Higgs, 2001). Non-formal learning can create challenges for learners because it occurs spontaneously and is difficult to plan. There has been poor written and mental recall and recording of this in the past. Students' learning may therefore become 'blocked' due to lack of recognition of the essence and messiness of learning the craft. This has been found to lead to uncertainty, tentativeness (Merton et al, 1957) and gaps in practice knowledge. The transmission of craft knowledge demands mentors modelling expert practice in ways which are accessible to students. Examples of craft knowledge as used in this thesis are:

- Varied styles of role modelling practice in a range of settings
- Students’ descriptions of ‘semiotic mediation’ and non-verbal signals used by mentors to promote learning
• Feedback and debriefing episodes by mentors
• Creative use of teaching aids
• Accounts of unconscious effects of previous personal learning
• Stories and metaphors related to episodes of care.

This research study partly emerged because of the significance of my own learning of midwifery practice as a student midwife in the 1980s. Much acquisition of knowledge and skills occurred informally. For example, following a birth on delivery suite, it was common to be 'debriefed' by the attending midwife on the delivery in the sluice whilst examining the placenta. I found this learning meaningful and memorable, partly because it was immediate, focused and yet non-threatening. Additionally, learning of skills was reinforced on a daily level through use of a wealth of teaching aids that all student midwives were invited to 'play' with. The teaching aids were sometimes simple objects such as a sleeve or cuff of a jumper (representing a cervix) and a tennis ball (representing a fetal skull). The senior midwifery tutor visited all wards every day and actively encouraged practising and repeating skills. Midwives often shared anecdotes which included snippets of useful information and humorous stories about cases that stimulated learning and, importantly, questioning. As we were not supernumerary as students, it was expected that we would attend ward rounds (including the Special Care Baby Unit) and community handovers, as well as monthly case reviews involving midwives, obstetricians and paediatricians. Significant learning also occurred through listening to women being debriefed by midwives following birth. I continue to use many techniques passed on by midwives in my practice as an honourary midwife at a local NHS Trust.

Without frequent hands-on tuition and access to the social episodes which enhanced my learning (and which I took for granted) how can student midwives undertaking modern preparation programmes develop the 'lifelong learning' needed in under-resourced maternity settings? This study set out to explore the learning processes, journeys and experiences of contemporary student midwives.

What I do in this thesis is examine historical models of apprenticeship and the ways midwives have traditionally learned the craft in the past. The contemporary organisation of midwifery practice and education are examined in the light of national policy,
technological advances and curriculum developments. The interpretive repertoires from a sample of student midwives unveil the lived experiences of the difficulties of learning effectively and reaching their full potential within modern mentoring models.

There are a number of problems which have stimulated the need to address the research question. Firstly, there is a gap between the educational philosophy of experiential, situated learning and the way it is actually delivered (Phillips et al, 2000). Secondly, as found by Pope et al (2003) models of mediation of learning and supervision of clinical midwifery practice are very different across England. Thirdly, there is a dearth of frameworks to aid facilitation of learning from practice (Boud et al, 1994). Linked with this, reflection on and in practice is not systematic (Phillips et al, 2000). Lastly, professional learning of midwifery is not practice driven and, with emphasis being on outcomes, grades and summative results (Eraut, 2000), it is possible the journey of our midwives of the future may be overlooked.

If craft knowledge has been found to be a marginalised component of practice (Street, 2001) and artistry of practice is known to be 'elusive' (Stockhausen, 2006) the practical and process knowledge deserves further study. Assumptions abound in the area of what practice ‘know-how’ looks like. The evidence presented in this study will assist in suggesting models and tools for enabling the surfacing of non-formal learning for a group which has previously remained minimally explored.

Subsidiary questions will therefore encompass firstly, how are the strategies for instruction perceived to be delivered in contemporary practice settings? Secondly, what is the nature of the knowledge transferred and how do students apply this mediated knowledge so that it is useful and transferable to new situations?

1.4 Uniqueness of spoken narratives

The nature of the knowledge transmitted and passed on to the student midwives is notoriously difficult to capture accurately. However, studying the linguistic expressions within audio-diaries and performing micro-analysis of discourses using a narrative analysis framework has provided the students with a voice and new information to add to current knowledge. The rawness and emotionality within the texts conveys the moments of challenge and elation embedded in practice learning. Spontaneous reactions to a
range of clinical situations present a rich array of descriptive texts, helping to build a picture of how craft knowledge is apparently transferred for individual learning in extremely complex maternity care settings.

Diary data were collected during a national midwifery education research study by Pope et al. (2003) but have been subject to different analytical processes and philosophical underpinnings for this study. Several audio-diaries from student midwives were used minimally in Pope et al’s final report as the data were not specifically relevant to the national project’s research aims. It was felt that the richness of the spoken narratives could only be revealed through changing the lens of theoretical development and the epistemological position. This has been achieved through use of a discourse analytic approach and a combination of educational and philosophical frameworks to underpin the approach.

The value of the reflexive diary data lies in its uniqueness and the vibrant micro-elements which subtly emerge in the descriptive detail of the everyday, mundane elements of learning in the workplace. The methodology therefore has strong connective links to the theoretical interest, namely investigating modes of transmission of craft knowledge from experienced midwives who mentor, to student midwives in a variety of clinical placements.

All the students’ audio-diaries submitted were rich, reflexive and illuminative regarding descriptions of how it felt to learn in practice. The diaries sometimes included narratives which revealed tacit understanding and insights into situated, relational learning by the students. How midwifery as a craft is imparted but not passed on through the formal curriculum seems to have been overlooked in previous midwifery education research studies. Discourse analysis implicitly ‘positions’ the individual (Adams, 2001). How things were said (including repetition, pauses, emphasis on certain words) creates an organic ‘live’ data set. For this reason, a decision was made to focus on the student midwives’ diaries only. Students who submitted diaries for Pope et al’s national research study (2003) were invited to:

- Describe what was important to them regarding their clinical learning on that day of recording.
• Relate what went well and what could have been better with regard to facilitation of the learning experience
• Identify which aspects of practice made them feel confident or in need of support in relation to learning that day.
(See Appendix 1).

Interestingly, although presented with a very similar semi-structured diary guide to the student midwives, mentors’ diaries in the main were more factual, lacking in vivid description about strategies used and were therefore largely ‘self-conscious’ in nature. The focus for the majority of mentors was on managing the workload and provision of clinical care, rather than a presentation of spontaneous narratives regarding teaching and learning techniques or relational aspects of passing on craft know-how.

As work at doctoral level demands new approaches to provide an original body of work, I felt it was important to clarify the ethical conditions and to check that additional consent from student midwives was not required. This is because the intrinsic intention for the research had not changed, specifically to identify how learning in practice was managed and experienced. I organised a meeting with the Chair of the University Ethics Committee at the University of Surrey and subsequently presented a pack which included project summaries and protocols for both the Hospital Saving Association funded national midwifery project (by Pope et al, 2003) and for my individual study. These were scrutinised and signed by both my supervisors. The ethics committee judged that no additional risks of harm had been created, therefore separate ethical clearance was not deemed necessary. This issue will be discussed in more depth in the Methods chapter (4.8.0).

The research questions and aims in the national midwifery education study (Pope et al, 2003) were entirely different from mine. In addition, the central focus for the national study was mentor preparation and mentor support. The initial bid for the monies to undertake the research was strengthened by the fact that the mentors’ responsibility to supervise, teach and assess student midwives had increased. This was particularly relevant following the Fitness to Practice report (UKCC 1999) which emphasised a competency approach to the curriculum. The aims encompassed investigating how teaching and learning was managed from 2000 to 2003, the purpose being to inform
changes to mentor preparation and this meant examining the formal learning and teaching processes across case study sites in England. The passion with which the student midwives shared their experiences in their narrative accounts was an unexpected outcome. It was frustrating, however, not to be able to include excellent descriptive detail emerging from the diary data simply because it was not pertinent to the aims and objectives of the national study. It was a privilege to have the opportunity to undertake an in-depth exploration in an area which had been previously underresearched.

1.5 Objectives of the research

Through analysing the students' narratives (using discourse analysis), the objectives are:

1.5.1 To explore how practice knowledge is generated through the mentor relationship

For example, how does the mediated knowledge manifest itself? I am interested in how this 'generated' knowledge is made visible and subsequently usable by the student midwives. Is it helpful for depth of learning to have a 'named' mentor or are placements too short for development of constructive mentoring relationships, thereby contributing to reactive learning?

1.5.2 To uncover the range of strategies the mentors use to support non-formal learning

Using Vygotsky's (1956,1978) theoretical work on tools used to promote higher cognitive functioning and more deliberative learning modes (Eraut, 2000) the inclusion of language as a tool provides an exciting medium to examine which tools were significant for student midwives' learning. How the midwife mentors articulated the knowledge was crucial. The strategies such as 'scaffolding' and 'fading' within a cognitive apprenticeship model provide evidence as to specific strategies which assist transference of 'knowing-in-waiting' into 'knowing-in-use' (Spouse, 2003).
1.5.3 To examine how the institutional context influences the promotion of the situated knowledge, which underpins practice.

Pope et al’s midwifery education study (2003) provides national evidence of the variation in mentoring models across the country. New roles had been introduced in some institutions, but with differing emphases. For example, Practice Support Midwives were introduced at one case study site with a specific remit to support student midwives. I am interested in how implementation of new roles impacted on the mentoring. What were the key restrictive and enhancing factors influencing how student midwives learnt within individual communities of practice?

This exploration of how craft knowledge is perceived as being transferred provides generation of new knowledge in this area. Tacit components of knowledge specific to midwifery have not previously been investigated in this way. Use of the selected educational, experiential learning theories and philosophical frameworks present a fresh approach and an original platform from which to further examine how tools are reported to be used by mentors to mediate knowledge and manage the learning. As stated earlier, models of mentorship were currently extremely varied in maternity care environments across England (Pope et al, 2003). Some models appeared to restrict learning opportunities for a number of students. Additionally, learning remains in a ‘reactive’ mode (Eraut, 2000), described as ‘on-the-spot’ as opposed to more deliberative (intentional and reflective). This has implications for standards of care offered to women and their babies.

The theoretical underpinning for this work stems from literature on experiential learning, incorporating Michael Eraut’s theoretical analysis of non-formal learning and implicit knowledge (2000). What are the characteristics of embedded knowledge and how can students be guided towards deliberative learning in practice? Student midwives describe their journey in trying to achieve this. They also describe the support required from their mentors for developing non-formal learning in professional practice. Their ‘voice’ is captured through the recording of their experiences of learning and support for ten consecutive days or shifts in a range of maternity care settings. To provide a

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1 A community of practice is: “Where people share their experiences and knowledge in free-flowing creative ways so as to transfer best practice and develop professional skills...” (Bate and Robert, 2002, p 662).
philosophical framework, Vygotsky's theory (1978) describing the Zone of Proximal Development has been applied. The diary data provide a basis to understand ways the students, as adult learners can potentially reach deliberative and active learning. To define the zone of proximal development and assist with 'scaffolding' the learning, students need to articulate the limitations of their learning and have protected quality learning time. Does the institutional culture support knowledge production and reflective learning within current mentor models?

This exploratory study of students' language-in-use provides insights into taken-for-granted aspects of experiential learning of contemporary student midwives. The narratives provide rich descriptions of students' learning and help in addressing the research questions. Non-formal aspects of practice may form a large component of the role and yet it has not previously been measured. This is because there are inherent difficulties with measuring education in practice. Non-formal learning has been selected as the focus for this research because it is an emerging field. The essence of this form of learning, using midwifery specific narratives, has not previously been studied in depth. The measurement through systematic analysis of the students' discourses provides a challenge but has the potential to create new knowledge in the area of clinical midwifery education. One aim of the study is to analyse the language the students use to convey their non-formal learning and tacit understanding of midwifery practice. How the students actually use mentorship as a learning process will help us understand how experiential learning is internalised. It is essential to understand what is missing in the current mentoring systems to suggest how mentors are positioned in the clinical education model. For example, are they valued as being central or are they, in fact, marginal in this sample of student midwives' development? It is anticipated that this evidence, using the students' voice, will contribute to educational policy, in particular, adding to our knowledge regarding how craft knowledge is transferred and how this process is managed across challenging healthcare settings. This research also has potential to inform policy on how mentor preparation programmes are delivered. The curriculum is in need of modernisation in line with national policy changes affecting clinical learning environments and increasing accountability of practitioners who take on the mentor role (Pellatt, 2006, NMC, 2006).
Through in-depth exploration of learning as perceived by student midwives, mentorship styles within current mentor models will add to our professional understanding of how practice learning is absorbed and used by students at various stages of their preparation programmes. The learning was mediated within mentor/student dyads and scaffolded using diverse techniques, on a continuum ranging from largely unstructured to structured.

Studying the mentors' contribution to experiential learning from the perspective of the student midwives presents some useful evidence demonstrating creative clinical teaching by some mentors. The value of the diaries will be supported by the detailed, individual narratives which contain information regarding explicit and less explicit modes of learning craft knowledge. The sample of student midwives includes long and shortened pre-registration programmes and therefore offers unique information to aid development of the clinical curriculum. This thesis also offers new ways of recording practice learning to help inform processes of reflective practice.

1.6 Structure of the thesis

With such a large data set in Pope et al's (2003) study and a central focus on preparation and support for mentors, this study sets out to investigate the students' learning experiences using a different analytical approach. As the lead midwife in the national study, I recognised that minimal diary data could be used to its full potential. Reporting processes mitigated against using large diary quotes, many of which would not have reflected the rich contextual backdrop of many students' vibrant narratives. Students' accounts within audio-diaries were often stark descriptions of very varied learning environments. Few studies provide information in this format. The discourse analytic technique has helped find ways to extract descriptive detail. The recommendations will make suggestions for student midwives to record their learning in ways which have the potential to benefit the next generations of midwives. The following section describes how the thesis will be laid out:

Chapter One identifies the context, terms and rationale for the study. The central aims and objectives of the research are presented and the approaches to addressing these are introduced.
Chapter Two provides a contextual background to the study. The first section highlights the overarching policy documents which have impacted on midwifery education, with a focus on clinical education in particular. Non-formal elements of midwifery knowledge will be put into context by examining the broader culture of midwifery practice in England, including developments in midwifery degree programmes and patterns of working within current systems of maternity care. Situated learning will be examined. This is relevant to the non-formal learning experienced by student midwives because the dominant culture affects the essence of practice learning and placement experience.

Influences on work based learning are presented, starting with an historical account of apprenticeship models for learning the craft of midwifery. This leads on to a review of mentoring as a craft in itself. Mentorship models form a central strand throughout this study and mentoring is therefore viewed from a national and international perspective.

The design of Pope et al's (2003) study formed the catalyst for very new information and provides a background to my research. The data concerning preparation for practice (and continuous assessment processes) in a range of midwifery settings provided the impetus for this individual study and so will be described in detail. Some information which has relevance for my individual research will be presented in the appendices.

Chapter Three presents a critical appraisal and review of the pertinent literature. In Part One, I distinguish forms of knowledge within a broader overview of the nature of knowledge, including situated knowledge and tacit understanding.

Part Two focuses on mediation of learning and relational aspects of mentoring including strategies such as use of identifying the zone of proximal development and techniques such as scaffolding and fading within cognitive apprenticeship models, to enhance learning. Ways of elucidating and articulating expert knowledge are explored before analysing literature related to experiential know-how and the essence of non-formal learning.

Chapter Four centres on methods used for this study. The discourse analytic technique (namely transactional analysis as used by Brown and Yule, 1983) is described. The journalling process will also be explicated as the diary has provided an innovative tool for
capturing non-formal elements of learning within a narrative analysis framework. Advantages and disadvantages of using the method are discussed.

Chapter Five focuses on analysis and presents extracts from the raw diary data. Part One examines the language used by the sample of student midwives (for example, around fear). Part Two specifies the techniques used by mentors as perceived by the students during clinical placements. In the final part of Chapter Five components of learning in institutional contexts will be summarised, specifying the restrictive and enhancing factors for learning which emerged from this data set.

In Chapter Six, I discuss the findings and relate these to the significant literature and selected underpinning frameworks. Models which have emerged as a result of this research process will be presented and explained.

In Chapter Seven, conclusions will be drawn, in tandem with implications for practice. Suggestions will be made for further empirical work.

1.7 Summary
In summary, this thesis will make a contribution to knowledge because:

- Mentorship in healthcare is high on the political agenda.
- Mentors significantly influence students' embedded knowledge and subsequently their confidence and competence. The extent of this influence through relational processes is under-researched.
- Non-formal learning is frequently untested and unexamined (even with formative assessment in place) and yet this largely unrecorded, often unarticulated non-formal learning makes up a significant amount of the learning experience in midwifery practice.
- Craft know-how often remains latent and untapped.
- Relational aspects of experiential learning (particularly with a focus on mentor/student dyads) have previously been relatively under-researched.
- Loose definitions of terms concerning forms of knowledge (such as tacit) and non-formal learning have led to confusion. This thesis aims to systematically address the above issues and define concepts and terms for purposeful investigation.
This chapter has introduced how the thesis will contribute to the constitution of new knowledge related to non-formal learning and the transmission of midwifery craft knowledge. Terminology has been defined to help provide clarity through the thesis. The epistemological, ontological and methodological approaches have been introduced to help set the scene and achieve theoretical resonance. The following chapter provides a background and rationale to provide a context for this exploration of the texts and subtexts which contribute to the 'texture' of non-formal learning processes embedded in midwifery practice.
CHAPTER TWO

BACKGROUND AND RATIONALE

Organizations can overlook knowledge as they end up sitting on a vast, ignored body of knowledge that they use, transform, and mine without knowing its true boundaries.


2.1 Introduction

Women who use the maternity service expect and deserve high-quality care. Provision of excellent care entails midwives having good clinical skills. This practical knowledge has to be obtained, to a large extent, during clinical training when student midwives are under the supervision of mentors. Observation of role models has been found to be central to the development of student midwives’ practical knowledge (Davies 1993, Begley 2001, Bluff 2001). However, for the training to be most effective, the midwives who mentor must be aware that they have knowledge to be passed on. Mentors must also be able to teach what they know; it is quite possible for an experienced midwife to function well without being able to verbalise clearly why (s)he does things in a particular way.

Midwives work within a clear regulatory context provided by the Nursing and Midwifery Council (NMC). The role of the NMC is to set and monitor standards for practice, education and professional conduct. This includes validating programmes and annual monitoring of the curricula.

The Department of Health (DoH) previously contracted with the Quality Assurance Agency (QAA) and Nursing and Midwifery Council (NMC) to implement and conduct a major review of NHS-funded healthcare programmes in England. This has recently been contracted out (NMC, 2006). Equal responsibility of the education institutions and placement providers as providers of healthcare education continues to be emphasised (NMC, 2004). The major review process considers the learning experience in both the education institution and in the practice learning environment, affording practice-based learning equal importance with campus learning. This strengthens the rationale for
exploration of students' knowledge development in clinical settings as in-depth information regarding teaching and learning in practice settings is required.

The Quality Assurance Agency (2001) published a set of midwifery benchmarks related to knowledge, understanding and practice. As Montgomery and Cunningham (2003) suggest, some skills are difficult to define (for example, team working and communication). This can create ambiguity within the assessment process, which commands extra responsibility for mentors. At the point of registration, student midwives must have achieved all the benchmarking statements as set out in the QAA (2001) document. Evidence therefore needs to be accurate and completed accurately by the mentor and student working in tandem.

Duffy's research (2004) drew attention to problems with failing students in practice. The final report makes clear recommendations which encourage mentor programmes to address issues of accountability, particularly with reference to boundaries of accountability in assessing 'borderline' students. Reliability of assessment tools therefore needs to be debated at national level (Duffy 2004) and adjusted accordingly. This issue has been addressed in the NMC standards for mentors, practice teachers and teachers (NMC 2006). With increased accountability, the number of students allocated to mentors must be monitored (Pellatt, 2006).

The mentor role has taken on a high profile. The NMC's Code of Professional Conduct (2004) states that:

Nurses and midwives on the NMC professional register have a duty to facilitate students of nursing and midwifery and others to develop their competence.

NMC 2004, clause 6.4.

Mentors are therefore charged with significant responsibility as the NMC now makes it a mandatory requirement that all students on approved educational programmes have a mentor (NMC, 2006). It is also mandatory that all mentors have annual mentor updates. The updating process is in need of adjustment in line with expectations of mentors (Watson, 2004) and ongoing development which encompasses individual practical and emotional aspects for empowerment of mentors (Finnerty et al, 2006). Sign-off mentors have to meet additional criteria and confirm that students have met the appropriate
standards of proficiency. This applies to all midwife mentors (NMC, 2006) who are entered on a register. They will then be subject to triennial review. A problem which may occur is that, because of the criteria to be fulfilled for midwives to become 'sign-off' mentors, there may not be adequate numbers of learners to assess.

The Fitness for Practice Report (UKCC, 1999) raised concerns about whether the current system for learning clinical skills produces competent midwives at the point of registration. One aim of this study is to explore whether and if so, how student midwives learn the practical, non-formal knowledge necessary for effective practice from their mentors. As an educationalist and practitioner, this research investigates the nature of knowledge and skills which are not assessed but which comprise a significant part of the role of the midwife.

Jarvis et al (2004) assert there is a need for a renewed emphasis on practice knowledge generally, with the emergence of work-based Masters degrees and practitioner doctorates. Non-formal learning (and, to an extent, work based learning generally) has previously been seen as merely a precursor to formal learning. Theories are demonstrating that non-formal learning is fundamental, assisting us to explore the knowledge embedded in practice (Smith M, 1999) and to understand the processes necessary for transferability of skills and knowledge.

Therefore, the sort of knowledge the thesis will be concerned with will be called craft knowledge which is a form of non-formal learning but so often overlooked in favour of formal (epistemic) knowledge. Spouse (2001) asserts that, in order to effectively use epistemic knowledge, students must have the ability to perceive the relevance to all practice situations. It has been suggested that the theory practice gap dominates approaches to education in the health professions (Spouse, 2001). I intend to show, using a sample of student midwives' idiosyncratic language, how vital the mentor is for assisting the marriage of epistemic and practical knowledge, assisting the transformation towards knowing-in-use (Spouse, 2003) and forming multiple bridges between theory and practice. The relational learning within a dyad appears to be the central pivot to craft knowledge which culminates in deliberative learning (described by Eraut, 2000 as planned and reflective).
With the challenges of under-resourced placements, reduced clinical time for acquisition and rehearsal of skills, a drastic reduction in full-time equivalent midwives and an increased reliance on technology in many specialties in developed countries, my concern for delivery of a consistent, quality service to women and their babies has led to this in-depth exploratory study. There appears to be a gap in our professional knowledge as to how the everyday, more mundane aspects of midwifery are perceived by students in practice. The benefits of use of diaries for recording actual ‘live’ data will demonstrate how valuable the organic nature of these voices are for projecting possible weaknesses in current delivery of non-formal aspects of the curriculum.

The need for an investigation into non-formal elements of midwifery knowledge becomes clearer when the recent changes in midwifery education are considered. Evaluation of the effects of rapid changes in education needs to be completed within a formal framework (Flyvbjerg, 2001). This chapter will be structured by first, giving the background to the culture of practice and subsequent developments in midwifery education. This will set the scene for an examination of the learning occurring in practice settings in England. I will then define terms as an introduction to the literature review and demonstrate how the literature and research objectives have informed the design of this research.

2.2.0 THE INFLUENCE OF PRACTICE

2.2.1 The culture of midwifery practice in England

Following the ‘Changing Childbirth’ Report (DH 1993) women, more than fifteen years on, continue to request maternity care which is safe and also flexible. There has been an emphasis on schemes which promote continuity of care and carer, namely case-loading and organisation of midwives into teams. Midwives are now encouraged to participate in schemes which involve integrated care for women. To make woman-centred care a reality, midwives needed to be prepared for new ways of working (RCM, 2003). This, however, requires new approaches to education. Lewis (2004) pioneered a student case-loading scheme at Bournemouth University to address this. The outcomes of the scheme for midwives, student midwives and women have been positive since its inception (Pusey, 2004). Additionally, student caseloading has been described as a model of good practice in the National Recruitment and Retention project (DH, 2005).
The continuing educational needs of midwives following the targets set out in Changing Childbirth (DH, 1993) were investigated by Pope et al (1996). The research resulted in an open learning package: ‘New Dimensions in Midwifery’ (ENB, 1996), which was designed to fill gaps in midwives’ continuing professional development. The work confirmed that implementation of new schemes of care need to link with education. This is supported in the NHS Agenda for Change (RCM, 2003). Additionally, National Service Frameworks have been set up to assist with raising standards of performance and clinical care. This has been set out as a ten year plan with Standard 11 directly being specific to maternity services (DH, 2004).

The last five years have seen increasing emphasis in clinical governance. Risk management strategies have led to a demand for a Clinical Negligence Scheme for Trusts (CNST). Standards were outlined by the NHS Litigation Authority in April, 2005. The clinical risk management standards are in line with the national patient safety agenda. Unfortunately, litigation in maternity care continues to rise (RCM 2005).

The Caesarean section rate has also continued to rise, with the rate being 22.7% in 2003-4 (Macfarlane, 2005). This has affected numbers of ‘normal’ deliveries (estimated at only 46%), which impacts on births for student midwives and in particular, births without intervention (including, for example, induction of labour and epidurals). Kitzinger (2005) suggests there is a ‘Caesarean epidemic’, with a tangible divide occurring between obstetricians working in NHS settings and those working outside the NHS. Miranda Dodwell from BirthChoiceUK expressed concerns in April 2005 about the increasing medical intervention in labour. Continuous electronic monitoring of the fetus in labour has been found to raise the Caesarean section rate, along with the increasing use of epidurals. Kitzinger (2005) suggests that the most concerning problem is the rise in operative delivery rates caused by deskilling of obstetricians, particularly of breech presentations and multiple births. This rise in technology and increase in surgical births has impacted on the practice the student midwives experience. There are also capacity problems arising from the fundamental need for all student midwives to have clinical experience in the labour ward environment and neonatal unit (NHS Education for Scotland, 2003). Adequate support for the mentors is required so that quality clinical supervision and assessment of midwifery practice can occur across the range of clinical settings.
There has also been a concomitant rise in use of technology more generally in the clinical settings. It is important to question whether this reliance on technology is at the expense of midwives’ clinical skills. De Vries (1993) confirms this by asserting that, with rising technological advances, the power base of midwifery is reduced, leading to the possible demise of midwifery as a profession. The 'Keeping Birth Normal' campaign remains active and has a strong profile (RCM, 2005). Kitzinger (2005) suggests that midwives remind themselves what 'normal' actually means as the technocratic model has been found to reduce the intimacy needed for positive birth experiences. This creates a 'pathologising' of the birth event (p 7). Role modelling of safe and sensitive midwifery care by a confident expert whose philosophy of midwifery centres on being truly 'with' women may become a dying art.

2.2.2 Women as service users: Expectations of modern maternity services

The profile of women using the maternity services has changed. Women are having babies later in life and returning to the workplace earlier (Page, 2003). With increasing social and geographical mobility, women generally have become more isolated, leading to a reduction in social and peer support during pregnancy, birth and postnatally. This has led to a concomitant reliance on support from the healthcare team and services (RCM, 2004). Reduced lengths of stay in hospital have led to the need for increased community care services. Selective postnatal visits have been introduced but services remain stretched. Inevitably, student midwives will have less exposure to physiological changes which affect women profoundly in the first week after birth, for example, lactation (particularly on days two and three postpartum); contraction of the uterus, vaginal bleeding and perineal healing. Psychological phenomena such as mood changes and post partum depression may well go unrecognised. This has implications for attending to the recommendations put forward in the Confidential Enquiry into Maternal and Child Health (CESDI, 2004). The report stressed the importance of information sharing of management plans for women with psychiatric illness by GPs, obstetricians, midwives and psychiatrists.

The public health agenda is central to organisation of services, particularly to vulnerable women and also in light of the most recent maternal mortality report (CESDI 2004). Interestingly, acting as a coach/mentor and promoting learning are highlighted by the Department of Health as being central to providing strong leadership in midwifery. In the
Health Care Commission's report to parliament, Sir Ian Kennedy highlighted that maternity services were not as 'good or as safe' as they should be (Health Care Commission, 2005). One of the themes which arose was inadequate training and supervision of clinical staff. The clinical supervision of student midwives and the junior workforce has direct relevance to this thesis. A point of interest is that there is a dearth of research exploring women's views of the clinical education and mentoring in action occurring during episodes of maternity care. Data from non-participant observation of mentor/student dyads in research by Pope et al (2003) provide evidence that student midwives spent substantial amounts of time with women on their own. As this experience was rarely fully relayed to the mentors, learning conversations which should have encouraged reflection in action and subsequent more deliberative learning did not occur.

Literature indicates that information on women's interactions with students and their mentors is an under-investigated area (Fraser 1999, Wilby and Deken, 2005). Pope et al (2003) conducted telephone interviews with 17 women and found that women exposed to maternity care by student midwives often remembered interactions with the students in detail. Some women stated that they found the students more caring and attentive than the qualified midwives. They generally expressed appreciation of the emotional support offered by students. Several women in the sample stated that they did not mind students spending longer on clinical examinations, particularly if they were thorough. Overall, women were supportive of the student midwives having 'hands-on' training as part of their professional preparation programmes. Pope et al's (2003) empirical work has raised awareness of how a sample of women perceived practice education.

2.2.3 Current systems of maternity care
The purpose for describing the British and North American context for contemporary birth is to set a backdrop to the experience for student midwives undertaking pre-registration programmes in England.

Lavender and Chapple (2004) used an appreciative inquiry approach in their research, to ascertain the views of 120 midwives regarding models and philosophy of care in a range of birth settings. It was found that there was often peer-pressure in delivery suites to work within a time frame and midwives intervened unnecessarily. Midwives felt that
junior staff had minimal exposure to autonomous midwives and suitable role models. Additionally, the training of midwives and students was perceived to be inadequate. Some midwives suggested they were not always providing informed choices for women, due to resource implications. The findings from Lavender and Chappie’s study have relevance to the subject of mentorship because if midwives who mentor are struggling with the systems of maternity care, they will not be effective role models for the next generation of midwives and students.

In contrast with the above research study, Kennedy et al (2003) examined the process and practice of midwifery care in the United States. Whilst the conclusions of Lavender and Chappie (2004) suggest the need for more equity of normal birth, the highly technological model of care in the US is implicitly accepted, with the midwife being identified as an ‘instrument’ of care. Kennedy et al (2003) presented findings from a survey conducted by the American College of Nurse-Midwives which examined the midwives’ perceptions of managed care. Some midwives vocalised reluctance to teach student midwives, believing the students would not be exposed to ‘true midwifery’ (p 204). This has implications for continuing development and progression of midwifery as a profession.

2.2.4 Patterns of working
Midwifery has seen a shortfall in recent years of midwives working ‘at the coalface’. This has reduced the numbers of midwives available for the mentor role. Additionally, numbers of midwives working part-time have risen. Magill-Cuerden (2004) suggests that these part-time patterns, combined with the introduction of flexible shift patterns at work (for example, school hour contracts) have influenced the environments where student midwives work. The European directive led to an enforced reduction in junior doctors’ hours (NHS Modernisation Agency, 2005). Midwives have subsequently acquired some tasks previously assigned to senior house officers and junior registrars (SPR Level One) such as ventouse (vacuum extract) deliveries. Most importantly, projected demographics of the ageing midwifery workforce provide cause for serious concern (Ball et al, 2001).

The NMC Register (2004) presents statistics for nurses, midwives and specialist community public health nurses. This shows that more than a quarter of practising midwives on the Register are over fifty years old. In December, 2005, the Royal College
of Midwives conducted a survey to ascertain members' views. Over fifty percent of respondents were between 41 and 50 years of age. Of those between thirty and forty years of age, most apparently worked part-time. Interestingly fifty per cent of midwives who responded expressed plans to retire within eleven years (2017). Almost three quarters of the respondents felt that the government's Agenda for Change had not improved their terms or conditions. The Royal College of Nursing suggests that the ageing workforce continues to be a critical challenge. With reduced funding streams predicted, workforce planning is entering an 'uncertain phase' (RCN, 2005).

In 2004, the Department of Health published a best practice guide to improve the working lives amongst maternity service personnel. This was targeted at midwifery managers to help them manage the human resources, principally, recruitment and retention. A commitment was made to establish suitable policy measures in every NHS Trust. Midwives are expected to be flexible in responding to women's needs. However, as Chris Beasley (Chief Nurse for England) asserts, managers have to support flexibility of services in providing woman-centred care as well as conditions for midwives as workers (DH, 2004). There are tensions for student midwives in provision of flexibility whilst balancing student status with assessments, exams and portfolio building. The changing health contexts have led to a recent document, produced by all health departments in the United Kingdom, centred on modernising nursing careers (DH, 2006). Surprisingly, very little reference is made to mentoring and coaching qualified staff within health contexts.

With the increase in the number of midwives working part-time (Ball et al, 2001) we need to carefully assess the effectiveness of current models of mentorship for pre-registration students. The Making a Difference report (DH, 1999) suggested that students' placements need to be of a higher quality, comprising more practical skills support. Additionally, the Fitness for Practice report (UKCC, 1999) emphasised competencies and outcomes needed for student nurses and student midwives at the point of registration. Registered nurses and midwives subsequently have greater responsibility for the clinical learning needs of students (Jones, 2004). How the mentors are prepared and supported in the mentoring role impacts, both explicitly and implicitly, on the students as learners. The mentor role has, in fact, become increasingly challenging (Neary, 2001), leading to reports of role-conflict. A national study (Pope et al, 2003)
indicated that there were a variety of models of mentoring being applied across the country.

Personal development plans are encouraged, in line with the Knowledge and Skills Framework (DH, 2005). In some NHS Trusts, practice educators have been employed, their remit being to improve the mentoring skills of qualified midwives. This has proved to be a generally positive training and development measure (DH 2005) although responses vary. At Trusts affiliated to the University of Surrey:

- Practice Development Midwives have a remit to support qualified staff, complementing the role of supervisors of midwives. A tool has been devised for use across Kent, Surrey and Sussex to assist monitoring of any midwives on supervised practice.
- Teacher Practitioners have a specific remit to support students in practice for fifty per cent of their time.
- Link Tutors are expected to have practice input for twenty per cent of their time.
- Clinical Skills Facilitators have been funded by NHS South East Coast to support the junior workforce, including Maternity Support Workers and newly qualified midwives.

As found by Goom (2003) and Finnerty and Pope (2004), processes and roles for supporting mentors are unclear and varied.

Midwifery students are supernumerary for their practical experience (NMC 2002, 2006). With students having a largely supernumerary status, there are concerns regarding competence. Begley and Brady (2002) recommend that supernumerary students will only become proficient in all clinical skills if they provide full care under supervision. Brady (2003) later examined the supernumerary status of student midwives in Ireland and her findings showed that students were often marginalised as they felt forced into observer status as ‘visitors’. This meant they effectively lost out on learning by ‘doing’. The need for better staff preparation for mentoring students was highlighted.

Crooke et al, (2003) maintain that physical distances between placement areas and the higher education institutions present a challenge to the development of successful
working relationships within a community of practice. With the present speed of change, learning organisations are being developed in some areas, the aim being to create stability for large teams within a shared value system. As Spouse (2003) stresses, however, it is the mentor relationship which forms the cornerstone of learning in practice. The quality of the mentor relationship is paramount and needs to be adequately supported by managers, teachers and those with new roles in practice.

2.3.0 THE INFLUENCE OF EDUCATION

2.3.1 Midwifery education in England

Until the mid-1980s, midwives initially qualified as nurses and had at least six months' experience as a staff nurse. Midwifery training took a further 18 months, during which the student was required to deliver forty normal births and attend forty abnormal births. Registration as a midwife was obtained after passing a Certificate examination. A major change in the mid-1980s was the move of pre-registration education into the higher education sector. Students entering midwifery no longer need to have a nursing background. Although some come into the profession with a wealth of life experiences, few have knowledge of health institutions (Holland, 2001) and therefore depend on quality mentorship in the practice environment.

Degrees and Diplomas are now offered through direct entry programmes lasting three or, in some places, four years. There was an assumption that nursing and midwifery students would have a similar profile to students studying other University degrees. However, the average age of a student midwife is 29 and often entering their second or third career (RCM, 2003). As many also have family commitments, this reduces their involvement in student life and the extra-curricular activities open to many 18 year olds living on campus. Financial problems are common and student hardship funds have been put in place (RCM, 2003).

With policy drivers such as widening participation, students entering midwifery through less traditional routes need increased support to move through the professional skills escalators. This has been particularly necessary for students registering for a Diploma.

Qualified nurses who wish to register as midwives must complete a shortened 18 month programme, which is also awarded through the Universities. All pre-registration
midwifery programmes comprise fifty per cent theory and fifty per cent practice, in a range of settings. Following recommendations in the Fitness for Practice report (UKCC, 1999) midwifery education has become competency based. Assessment of competencies is undertaken by mentors who have to be registered to perform this role. The core skills are detailed in the Midwives Rules and Standards (NMC, 2004) and in the ENB’s advisory standards for mentors (ENB, 2001. See Appendix 2).

Prior to September 2001, the ENB 997 (Teaching in Clinical Practice) Certificate was required for mentors to be enabled to supervise students and facilitate learning in the clinical area. Broadly, mentors are now expected to be prepared at a minimum of academic level three (degree level) and to:

...work in partnership with practice educators, lecturers, nurse and other health care consultants and their colleagues within multiprofessional services to enable students to achieve identified learning outcomes


In some places, training to be a mentor may comprise a two-day course, with updates (covering for example the students' assessment documents) being only half a day annually. Pope et al (2003) found that updating processes were extremely diverse. Restricted resources in some clinical areas meant midwives with a mentoring role were often prevented from attending mentor updates. Finnerty and Pope (2004) found that mentors lacked incentive to attend the updates, which may not have been discipline specific and subsequently lacked relevance. There are moves to modernise the updating process for mentors. This means stressing a development strand to the educational package and may mean delivering some elements on-line or in a DVD format.

The move into Higher Education Institutions (HEIs) has meant far more than just spatial relocation; an entire culture shift has ensued, creating a radical change in how student midwives learn, conceptualise and use their knowledge in practice (Comerasamy, 2001). Not only has the teaching of midwifery altered radically, but the role of the midwife has been transformed over the last ten years. Since the Changing Childbirth Report (DH 1993), women have demanded a new style of maternity care which places them centrally in both the decision-making and caring process. The NHS has responded by developing a new agenda for quality with the introduction of National Service
Frameworks and clinical governance. Universities have tried to play their part by developing new curricula, ostensibly offering a firmer emphasis on clinical practice:

Practice placements are a vital part of the education process. Programmes must be planned to ensure that there are higher quality placements in a genuinely supportive learning environment.  

ENB 2000, Education in Focus, p 15

Due to funding cuts and benchmark pricing for students, student numbers are facing a 'drastic reduction' (Smith A, 2006). The Council of Deans for Nursing and Health Professions has suggested this could destabilise the current education and training infrastructure. In the meantime, reductions in student midwifery numbers are variable across the United Kingdom. Recruitment and retention are both high on the national agenda (RCM, 2006).

Student employability profiles have been introduced (DH, 2004). Competency has been divided into a number of elements, for example:
- Cognitive skills
- Technical ability
- Organisation awareness

The rationale for development of student employability profiles is to assist employers to support development of students' skills, thus assisting to widen access and participation and help reduce junior staff attrition rates. Additionally, the emphasis on modern midwifery education programmes is to endow health care students with pertinent knowledge and skills to be adaptable to the ever changing roles of professionals within the National Health Service (Magill-Cuerden, 2004). Although this marks a sea-change in a focus on traditional roles, I believe the craft knowledge needs to be captured and recorded so that the essence of midwifery practice and the practical know-how is not diluted.

Scholarly activity has been increasingly valued in professions such as nursing, physiotherapy and midwifery. Higher degrees such as Masters in Arts and Science are expected. In addition, there has been a rise in numbers of midwives completing MPhil and PhD level work. Retaining the essence of practice is paramount.
2.3.2 Developments in work based learning in health care settings

Work-based learning is described as being the combining of self-knowledge, expertise at work and formal knowledge (Flanagan et al, 2000). However, through the use of behavioural approaches to competence, complexity of the real world is often overlooked.

As stated previously, the policy documents, *Making a Difference* (DoH 1999) and *Fitness for Practice* (UKCC, 1999) were influential in recommending significant changes to practice-based learning. Of key importance was the need to address skills acquisition of pre-registration nurses and midwives as well as the need to support learners to link theory and practice more effectively.

Factors which facilitate and inhibit learning during clinical placement have been identified in research during the last two decades (Orton 1981, Fretwell 1983, Smith P 1988, Wilson Barnett et al 1995 and Spouse 1998). This includes elements such as a positive ward climate with an empowering manager and a commitment to teaching healthcare students. The Irish Nursing Board (An Bord Altranais, 2003), suggest that support structures should be put in place to create and also maintain a quality clinical learning environment.

There has been a renewed focus on mentor competency since the introduction of the Code of Professional Conduct (NMC, 2002) and standard for mentors and teachers (NMC, 2006). All qualified nurses and midwives now have a responsibility to facilitate learning within the clinical settings.

The following section addresses support for learning and explores historical influences for current teaching and learning systems for student midwives.
2.3.3 Apprenticeship

Traditional apprenticeship implied an agreement (sometimes written and involving payment) between the expert and the novice. Instruction often depended on the expert's generosity, willingness to teach and sense of responsibility the practitioner had for the trainee. Friend (1992) suggests that the apprentice's 'labour' was directed by the individual professional and that the length of the apprenticeship was also variable, depending on time needed to acquire skills.

Very few texts have survived which record how midwifery skills were taught. In the eighteenth century, a French midwife named Angelique Du Coudray wrote a childbirth manual and invented a life-size mannequin for demonstrating birth techniques. The model (or 'la Machine' as it was known), was made from leather, cloth, bone, wood and wicker. The model has been described as 'a revolution in pedagogy' (Gelbart, 1998). Du Coudray's mission was to teach the unskilled country women, due to what she described as ignorance and the need to bridge the divide in safe midwifery practice between the city and countryside. Over ten thousand women were trained using these methods across most of France over a period of twenty five years. Du Coudray's commitment to professional training stemmed from concern at the huge number of 'quack' midwives in operation before the Revolution.

Only one machine has survived the handling through the ages and this is housed at the Musée Flaubert in Rouen, France. I was so inspired by this visionary midwife's contribution to clinical education that I visited the museum in October 2005. What is exceptional about Du Coudray's invention is the accuracy in measurements and detail in the detachable parts, including placenta, membranes and fetal skulls. Interestingly, in the museum, X-Rays have been taken in recent years of the main machine and of some of the detachable parts. The spine of the fetus was found to have the correct number of vertebrae and the pelvis had correct dimensions and yet Du Coudray would not have predicted such close scanning and measuring of her models.
Figure 3. Uterus and fetus at seven months from 'la machine de Madame du Coudray', Point de Vues 2004, p 37.
In a Mission Statement in 1760, Du Coudray wrote that she presented her 'little work' to make her 'art' more accessible to the Court and also to the Academy of Surgeons. This, in itself, was evidently an achievement for a woman at this time. France was said to be becoming 'depopulated' due to phenomenal perinatal mortality rates as 200,000 babies in the country were dying each year (Gelbart, 1998 p 51). Du Coudray describes how imperative it was for country women to have a formal apprenticeship in midwifery due to the superficial nature of training offered.

Leap and Hunter (1993) undertook an oral history from midwives and recorded the trajectory from 'handywman' to midwife in the early twentieth century and during the Second World War. The book reveals some of the ways that midwives have traditionally handed down their role. For example, it has been recorded that a handywman was often employed to work alongside the midwife, primarily doing the 'donkey-work' (for example, domestic chores) but sometimes 'assisting' the midwife. Handywomen later became extinct due to increased hospitalisation of women in labour and the establishment of the National Health Service in 1948 (Leap and Hunter 1993).

Marsick and Watkins (1990) suggest that the rise in technology has taken some of the art out of jobs, leading to deskilling of practitioners. This has meant returning to apprenticeship models of training. Magill-Cuerden (2004) asserts that the fast emergence of technology has meant that in-service and continuing education for midwives have had to be reviewed. Her thesis examines dynamics of educational relationships with the move from an apprenticeship to a studentship paradigm in the twentieth century.

The table below provides information on more formal apprenticeship models which followed:
Table 1: Changes in the length of midwifery training and relationships with apprenticeship, pupillage and studentship (Magill-Cuerden 2004, p 22).

<table>
<thead>
<tr>
<th>Year change made</th>
<th>Non-nurse entry for midwifery qualification</th>
<th>Registered nurse entry for dual qualification of registered nurse and midwifery</th>
<th>From apprenticeship and pupillage to studentship</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre 1900</td>
<td>-</td>
<td>-</td>
<td>Informal apprenticeship woman to woman</td>
</tr>
<tr>
<td>1902</td>
<td>3 months</td>
<td>-</td>
<td>Introduction of formal midwifery training</td>
</tr>
<tr>
<td>1919</td>
<td>6 months</td>
<td>4 months</td>
<td>Pupillage apprenticeship in hospital</td>
</tr>
<tr>
<td>1926</td>
<td>12 months</td>
<td>6 months</td>
<td>in community</td>
</tr>
<tr>
<td>1936</td>
<td>18 months + 6 months = 2 years</td>
<td>6 months – part 1[= 1 year]</td>
<td></td>
</tr>
<tr>
<td>1936 – 1976</td>
<td>Single period (phased in)</td>
<td>6 months – part 2[= 1 year]</td>
<td></td>
</tr>
<tr>
<td>1981</td>
<td>3 years*</td>
<td>18 months*</td>
<td>Introduction of studentship in hospital and community</td>
</tr>
<tr>
<td>1992</td>
<td>3 year diploma; 3 year degree; 4 year direct entry degree**</td>
<td>18 months accreditation at diploma as minimal level**</td>
<td></td>
</tr>
</tbody>
</table>

* From 1989 diploma and degree programmes were validated (English National Board Report 1989 – 1990)
** English National Board (1991)

The above table charts the lengthening of formal midwifery training, which occurred mainly in the first half of the twentieth century. As Leap and Hunter (1993) point out, student midwives had to pay for items such as uniforms and equipment, over and above tuition fees. This excluded many working class women from entering training and the financial burden restricted access to some occupations (Witz, 1992). Some of the narratives within Leap and Hunter’s text testify to the struggle many student midwives had in the academic part of their training during the 1930s. Due to authoritarian teaching methods, trainee midwives often learnt by rote from textbooks.
Modularisation of courses in Higher Education has meant that modern midwifery programmes have had to be 'packaged' into modules (RCM, 2003). Education of theory and practice incorporates both midwifery and non-midwifery modules and placements.

Fuller and Manion (2004) assert that, with any structured apprenticeship programme, opportunities must be generated within the curriculum for breadth as well as depth of learning. This is to enhance progression from novice to expert for the student. However, the concept of novice is challenged due to the constantly changing profile of contemporary students. Many are entering healthcare training programmes with a wealth of educational and life experiences gained before entering the profession. As Fuller and Manion (2004) purport, this demands a more flexible curriculum. Magnusson et al (2006) advocate for a toolkit to be implemented in HEIs, which takes account of support needed, which should be offered in parallel to widening participation initiatives. Learning relationships have been adjusted and individualised to incorporate non-traditional students.

Modern apprenticeship schemes have been introduced as a way to adapt to widened gateways into jobs and professions. Ainley and Rainbird (1999) purport that the UK is experiencing advancement of modern apprenticeships because the concept of apprenticeship as a way of working is going through a revival. Rokowski (1999) argues that the move towards lifelong learning entails people being in a "constant state of apprenticeship, never capable of mastering the learning they require" (Rokowski, 1999). This has implications for continuing professional development of the healthcare workforce and implies the reinforcement of the need for portfolios as a medium to record learning and experience. Electronic portfolios offer a new and potentially exciting medium for presenting one's personal and professional development (Cotterill et al, 2004).
2.3.4 Mentorship

Jarvis and Gibson (1997) suggest that the literature shows inconclusive definitions of terms (often used interchangeably) such as mentor, preceptor, facilitator and supervisor. For this thesis, the focus will, of necessity, be on the role of the mentor. Dawn Holland (2001) asserts that the notion of mentoring emerged amongst the Ancient Greeks and Romans, when young men had designated mentors by their side to advise, educate and counsel them.

Bennetts (2002) explored traditional mentor relationships. She maintains that authenticity is a crucial quality for mentors, alongside emotional maturity and emotional intelligence. Bennetts also purports that intimacy is crucial in any traditional mentoring relationship. The interpersonal domain is notoriously neglected in literature regarding mentoring (Higgs and McAllister, 2005) and yet much knowledge is constructed through development of human relationships so is a vital component for students:

> Personal investment in relationships with students creates vulnerability as well as growth for both student and educator.  

Higgs and McAllister 2005, p 161.

Emphasis for every mentor should be the development of an effective working relationship so that meaningful learning occurs, both formally and informally. As stated previously, concerns are being raised at national level about the quality of clinical skills that student midwives are qualifying with (UKCC, 1999). This means that mentors in clinical practice now have a greater responsibility to enhance the clinical learning and skills base of their mentees, not just for the professional learning profile required to be part of the NMC Register, but to have a repertoire of skills, demonstrating confident adeptness and most importantly, safety for women and their babies.

Greater role clarity and definition of the mentoring role is long overdue. Earnshaw (1995) stated that, with the role being so eclectic and multi-dimensional, it will always be difficult to clarify such a role. However, as Cahill (1996) purports, the lack of a universal definition of mentoring renders analysis of the role a challenge. It is this challenge which produces fertile ground for research in this important area.
Margolis (2001) suggests that mentoring is often seen as a panacea and drawbacks to mentoring systems are frequently overlooked. He asserts that mentors are primarily ‘agents of socialisation’ (p79) and are expected to help maintain the hierarchy and status quo of the institution. Mentoring therefore forms a significant element of the hidden curriculum. Margolis (2001) adds that if the mentee wants to successfully move from novice to professional, they must accept the ‘tastes, and attributes, jargon, attitudes and institutional practices, as well as embracing certain ideologies’ (p 35). This will often mean the mentee must align with the values and dominant ethic of the institution, so potentially compromising the learning.

Sully (2003) suggests that the degree of significant learning hinges on the power in the learning relationship and asserts that ‘commitment, congruence, valuing and empathy’ are the key ingredients for successful partnerships to sustain learning. However, a degree of maturity and ability to negotiate are needed to achieve this. Gray and Smith (2000) express some doubt about healthcare students' engineering of their placements, suggesting that students may be prone to displaying the mentor’s preferred models of working, so positively influencing their practice assessments. This was occasionally found by Pope et al (2003).

Problems which may arise from the mentoring process in any organisation are:

- ‘cultural conditioning’ of the students to the profession (Magill-Guerden 2004)
- ‘moulding’ of novices by ‘old-timers’ (Fuller and Unwin 2004)
- the passing on of ‘rule-bound, ritualistic practices’ (Field 2004)
- coercion (Fuller and Unwin 2004) and
- covert and overt control mechanisms (Cahill 1996).

A parental or matriarchal model obviously not only creates student dependence (Earnshaw 1995) and forced conformity (Cahill 1996) but manipulation of conditions by mentors can interfere with the transactional, dynamic nature of communication and subsequently learning (Curzon 1985). Hajzler (2001) cited by Rose (2005) also suggests that mentors can create a climate of favouritism. Another limitation of the mentor's role includes over-dependence in the relationship by the mentee.
Pamela Matters (2002) describes mentoring practices over two decades, and stresses how imperative mentoring partnerships are for providing the cornerstone of teaching and learning excellence. For mentoring dyads to interact effectively, key elements for success have been summarised as being:

- A relationship emphasis
- An information emphasis to facilitate exchange of cogent advice
- A facilitative focus
- A confrontive focus implemented safely
- Modelling of appropriate behaviours by the mentor and
- Encouragement of expression of visions by the mentee to promote successful initiative taking.

Matters, 2002 p 2.

What is stressed throughout much of the literature on mentoring is the degree to which mentors provide a ‘live’ educational resource. Spouse (2003) asserts that good mentoring includes four characteristics: Befriending, planning, confederacy and coaching. Confederate activities are defined as those in which the mentor takes the lead in care. In Spouse's study, student nurses described how significant their mentors were in helping them to ‘break through’ and feel they were authentic in their practice. Positive mentoring relationships were found to be fundamental to students’ scaffolding of their learning. This work will be drawn on in more depth in the literature review (Chapter Three).

Holland (2001) claims that, rather than the mentor taking on a position of authority, if the mentor and student find ways to share their knowledge, they both acquire power and are then free to create change. The author, however, makes the assumption that there is a healthy working relationship between the mentor and student. Jarvis and Gibson (1997) maintain that authority is often attributed to mentors because of their knowledge, skills or position, rather than it being an intrinsic quality of the individual mentor. Additionally, respect from students cannot be guaranteed and neither can genuine motivation of mentors to provide quality teaching. To counteract this, Jarvis and Gibson (1997) promote reflexivity of mentors, suggesting that they constantly assess their performance and self-assess their role within their own role set.
Daloz (1990) asserts that mentors often play a key role as a catalyst in a mentee’s transformation and yet the mentoring process remains, to a large extent, invisible. In particular, it has been found that the ‘nurturant’ role of the mentor is extremely valuable to many mentees and yet is seen as merely babysitting. Daloz (1990) suggests that the nurturant role involves a level of emotional engagement that ‘distinguishes the good mentor from the mediocre teacher’ (p 33). When intellectual, emotional and ethical growth are fostered by a willing teacher, the quality of learning by students is high.

Downs (2005) has explored mentorship traits and relational characteristics needed for mentoring to be successful. His work confirms the dynamic nature of individual mentor/student dyads and argues that characteristics related to the relational aspects of mentoring have more meaning for mentees than knowledge. The unique character of each dyad was also found in research by Pope et al (2003). Downs (2005) asserts that the mentor must be ethical, genuine, an intentional role model and able to self-disclose, so as to maximise mutual trust.

Parker (1993) found that in business settings, where women self-disclosed and demonstrated skills useful for bonding with other women quite naturally in the workplace (for example, by actively listening), disconnections often occurred when junior women were paired with senior women in a company. Conditions for connection were apparently reduced by harsh judgements, stereotyping, conflicts of interest and a lack of empathy. This links with cultural competence needed for mentoring, which is often minimally addressed in mentor preparation programmes.

Remedios and Webb (2005) use the term cultural literacy to describe knowledge and understanding of meaning systems in a range of cultural contexts. The explicit and implicit rules of the culture need to be acknowledged. Remedios and Webb (2005) assert that cultural literacy of both mentors and students should be considered.

Gray and Smith (2000) interviewed ten student nurses five times during their three year programme and invited them to keep diaries recording their experiences of mentorship in practice. Poor mentors were reported to throw students in the ‘deep end’, delegated unwanted tasks and frequently intimidated students. These findings were found to correlate to Darling’s (1984) description of the ‘gallery of toxic mentors’. Toxicity was
created by mentors, for example, being critical or withdrawing responsibility for supervision of learners. Gray and Smith (2000) assert that all students in their study had been exposed to toxic mentoring to some degree during their preparation programmes. Although the analytical framework and findings are well described, there is minimal information provided on how the interviews and diaries were implemented.

Mentorship has been shown to have a significant effect on the success or failure of students (RCM 2003). Clearly, mentors have an important role in teaching midwifery students by bridging the gap between theory and practice. However, it remains unclear whether the mentor’s role is supported by adequate resources and training. Problems are compounded by mentors having to teach, assess students and practice at the same time. There is a potential for role conflict due to the mentors’ multi-functional role (Andrews and Wallis 1999). This has been made worse by a national shortage of midwives (Ball et al, 2001). As a result, students may have inadequate clinical supervision. The changes to the theoretical and practical components of the curriculum, linked with stresses placed on mentors to provide quality supervision have a direct impact on both the formal (explicit) and non-formal (implicit) learning of the student midwives.

Mentors in Pope et al’s national midwifery education study (2003) described not feeling totally prepared for some of the ‘hidden’ aspects of the mentoring role, for example:

- Emotional work of supervising students
- Exhaustion, particularly when managing clinical areas or teams
- Lack of time for mentoring activities (in particular, teaching clinical skills and assessment)
- Organisational demands
- Sustaining positive mentor relationships with the range of students on clinical placement

(Pope et al, 2003)

Diane Jones (2004) undertook a useful evaluation of midwife mentors and examined their perceptions of the mentoring role. The design comprised a questionnaire to 87 midwives in one NHS Trust, so has some limitations, particularly as there was only a fifty
per cent response rate. Jones (2004) recognised that mentors rarely have opportunities to formally assess their roles as mentors. The evaluation therefore focused on their experiences of the mentoring role. A positive aspect of the sampling was that midwives from F and G grades were included. This provides a useful comparison with the range of mentors in my own research study.

Spouse (2001b) cites studies which provide evidence that tensions exist for mentors due to dealing with challenging clinical workloads whilst attempting to mentor students well. The four main activities ascribed to mentors are:

- Supervision
- Teaching whilst engaged in expert practice activities
- Assessment feedback
- Provision of emotional support to students in their care (Spouse, 2001).

Additionally, Allen (2002) asserts the need for mentors to support students and guide, encourage, facilitate and consolidate their learning. However, due to often using didactic methods to fulfil their role, Spouse's research reveals an important gap in clinical supervision of pre-registration students. She suggests that students may not develop their craft knowledge because mentors often fail to provide suitable educational experiences (Brown & McIntyre 1993, cited by Spouse 2001b, p 513).

What appears to produce perennial problems for mentors stems from the fact that each 'definition' of a mentor has a different emphasis. To help simplify this, Daloz (1990) suggests that two key aspects of mentoring are teaching and counselling. Much depends, therefore, on how these two attributes are blended so that mentoring is 'firmly grounded in an inter-actionist perspective' (p 179).

The individuality inherent in mentoring mitigates against prescribing a one size fits all standard as the characteristics of the individual mentor can influence the student's placement more than the actual placement area (Smith and Gray, 2001):
A great deal of the success of clinical education rests on the shoulders of clinical educators, their own abilities and personal attributes, and the preparation and support they receive.

Higgs and McAllister 2005, p 156

With this in mind, there are implications for re-designing mentor development programmes, using a blended learning approach. Electronic portfolios have been introduced on the mentor preparation programme at the University of Surrey. Students are invited to record their personal and professional learning journey and this has introduced a new style of reflection.

2.3.5 Assessing practice

Few national research projects have focused exclusively on the process of assessment of midwifery practice. Phillips et al (2000) explored assessment of student nurses and student midwives (as well as a sample of qualified staff) in a range of practice settings. The methods involved dialogic evaluation, with emphasis being on evidence from portfolios and vignettes. The main finding identified that: 1) the quality and effectiveness of assessment were very variable; 2) mentors were assessing within already heavy workloads; 3) continuous assessment of practice was not systematic and lacked progression plans. The authors also reported that assessors felt inadequately prepared to perform reliable assessments or to usefully link theory to contemporary practice.

The debate continues as to whether the same person should mentor and assess a student. CiCi Stuart (2003) raises the important issue of the potential dilemma created by the 'mentor-assessor interface'. She asks; can both moral accountability (to students) and professional accountability (to women, babies and families) be fulfilled without creating anxiety and anguish for both parties in the mentor/student relationship? Identification of who should have moral responsibility and accountability to the student is often implicit in the learning environment. The NMC (2006) standard for mentors and teachers clearly maps levels of expected accountability.

Objectivity within the assessment process is obviously essential. This is difficult to achieve consistently when assessing complex learning outcomes which often arise in midwifery practice situations. Knight and Banks (2003) examined 'ability to' statements of engineering graduates against the need for advanced and complex understanding.
required by a Higher Education Institution. The argument is that the assessment process should stimulate complex learning (Stuart 2003). However, much 'fuzzy' learning which occurs in practice has not been widely researched. Additionally, Knight and Banks (2003) suggest a correlation between the intelligences, but purport that practical and emotional intelligence do not mesh with academic intelligence. I would suggest that a rubric, such as that designed by Johannsen (2001) could assist in combining all forms of knowledge within a constructivist framework. The rubric is designed to assist students in meaningful learning by prompting the learner to be active, constructive, collaborative, intentional, complex, contextual, conversational and reflective. The rubric forms an holistic framework in its linking of these qualities.

Difficulties occur because most professional learning in practice is essentially non-formal. This authentic, workplace, non-formal learning has outcomes which are notoriously difficult to specify. Even more challenging is assessing a student's zone of proximal development (Vygotsky, 1978), for example assessing how each student copes with uncertainty and pressure. Knight and Banks (2003) assert that non-formal learning needs to be taken more seriously. Learning environments and the curriculum require subtle adjustments to accommodate the complexity of reality. Mentoring therefore also needs to be adjusted to fully accommodate non-formal aspects.

Neary (2001) argues for a new approach to the assessment of students' clinical experience. Based on Benner's work (1984) which explored the movement from novice to expert, Neary (2001) advocates for a conceptual model termed 'responsive assessment'. The model was developed primarily to match each student's professional development and personal growth and in response also to individual clients' needs. The model was based on research findings. Data from my own research will reveal a requirement for a model which responds to individual learning needs.

Fraser et al (1998) developed an assessment matrix, to assess the outcomes of pre-registration midwifery programmes. The matrix, based on Rule 33 (UKCC 1998) and Changing Childbirth (DH, 1993) was designed to assess competence and identify learning needs. The authors concede that:
The midwife's professional role is complex; competence must encompass capability across contexts of time, not merely individual performances. 

_Fraser et al. 1998 p 36._

Whilst partnership models have been suggested to help reduce the tension between education in Universities and assessment in clinical practice, difficulties persist in relation to issues surrounding validity, reliability, credibility and robustness of continuous assessment tools.

_Norman et al. (2002)_ maintain that no single method is appropriate for assessing clinical practice. The authors suggest that in order for nursing and midwifery students to accomplish the wide range of skills, attitudes and knowledge necessary to be competent and fit for practice, a multi-method strategy for assessment of clinical competence is necessary and needs to be standardised nationally. This remains difficult in the absence of a useable 'gold standard' against which to measure competence of student midwives, based on observation of their practice. Simulated assessments show possible potential but require teachers who are clinically credible or lecturer-practitioners to conduct the assessments (Norman et al. 2002).

Objective Structured Clinical Examination (OSCE) is a method used for assessment but could be criticised for providing opportunity for one-off, individual performances only. However, training in clinical skills and communication skills remains a perennial problem in midwifery (RCM 2005), medicine (Junger et al., 2005) and related disciplines. OSCEs have therefore been found to encourage medical students and student midwives to problem solve effectively together. Symonds et al. (2003) found the most effective method was use of common labour ward scenarios at a series of clinical 'stations'. It was the formative structure of the assessments and the interactive aspects which were found to promote the most meaningful learning.
2.3.6 Mentor preparation: New programmes

Mulholland et al (2004) investigated drivers for change and barriers to change in preparation of Practice Educators across five health care disciplines. This is because there are currently such varied models of mentor preparation within and across disciplines. A key recommendation is that attendance at training courses should be compulsory for all practice educators (including mentors). Additionally, it is recommended that practice educators need more time to fulfill their educational role.

A pack has been produced by the University of the West of England in partnership with the Avon, Gloucestershire and Wiltshire Workforce Development Confederation. An identified problem was that the live register of mentors was not accurate or current. The executive summary states that:

...students have a right to expect an agreed standard of competence from their mentors.
(Goom, 2003 p 17).

A four year cyclical programme was developed to increase motivation of mentors through the update and review process within a partnership model (Goom, 2003). Assurance of mentor competence is documented in a 360 degree assessment grid. Reflection on mentoring practice is encouraged through a series of scenarios with written accounts from mentors of action taken.

This pack initially appeared progressive and would certainly seem to improve co-ordination of update activity within employing organisations and the affiliated University. In particular, the pack does provide opportunity for mentors to address their individual updating needs (which may have been overlooked with the traditional update system). However, there is no rationale for the cycle being four years. Additionally, the pack creates substantial paperwork for mentors, with no obvious indication of structured support being available to assist them.

2.3.7 Development of a new standard for mentors

The Nursing and Midwifery Council suggests a new standard to support learning and assessment in practice. The proposals were informed by Duffy's research (2004) related to mentors 'failing to fail' students who under-perform in practice and are based on a
review of the original ENB Standards for the preparation of teachers of nursing and midwifery (2000). It has been found that mentors do not see it as part of their role to fail students, thus leading to nurses and midwives registering with sub-standard professional standards and competencies. Duffy (2004) used a grounded theory approach for her research and her sample included 26 mentors. Of this purposive sample, only ten had failed a student. Part of the problem was found to be the conflict between differing agendas (for example, the higher education institution and NHS Trust). A tension was also found with regards to retention of students and formal identification of 'weak' students.

Varied mentor models and practices exist across the country. Additionally it was never a requirement of the UKCC for mentor qualifications to be recorded on the register. Higher Education Institutions (HEIs) have therefore devised their own registers of approved mentors. The NMC Standard for Mentors (2006) supports a revision of standards for teachers of nursing and midwifery at all levels. There is a need for standardisation of preparation programmes and a mechanism to quality assure the NMC's (2006) mentor standard.

Following a consultation on a standard into supporting learning and assessment in practice, the Nursing and Midwifery Council recommended that forty per cent of students’ time in placement should be spent with a mentor (NMC, 2006). Additionally:

Clinical commitment should be reduced for mentors when they are supporting a student (Gosby 2005, p 7).

These recommendations obviously have workforce and resource implications. What seems to have been overlooked in debates about mentor student contact time is responsiveness to student progression and stage of programme (Lloyd-Jones et al 2001).

As part of the NMC consultation on the review of fitness for practice at the point of registration (2005), the standard includes the development of skills clusters to support proficiencies. For midwifery, further consultation is required to gain consensus on what these skills clusters will be, owing to complexity of midwifery practice. A problem which
may arise is segmentation of skills into hierarchies. This has relevance to weighting awarded to non-formal aspects of learning as this form of learning is problematic to codify, measure and 'sign off'.

The NMC standard (2006) is presented in the form of a developmental framework to provide clear accountability for mentors, practice teachers (e.g. lecturer practitioners and teachers). The main factors for standardising mentorship include the following key suggestions:

- A 'sign-off' mentor with specific responsibility to judge competency and sign off assessment. (All midwives are expected to be sign off mentors).
- Protected time for mentors (one hour protected for signing off a student)
- Use of student placement passports
- A triennial review of mentors-focusing on updating and the 'live' register
- A defined role for 'practice teachers'

As with other documents concerning the features of the mentoring role, the formative assessment process is rarely if ever mentioned. I would suggest this area needs to be urgently reviewed as supporting formative learning can take a substantial amount of 'hidden' time for mentors. As with summative assessment, this has not been built into Agenda for Change structures and yet responsive assessment can substantially enhance student learning (Neary, 2001).

The Canadian Nurses Association (2004) has produced a comprehensive guide for modelling practice through mentorship and preceptorship. Expected mentor competencies are clearly laid out (for example, how to foster an effective mentor/mentee relationship). Differences between preceptorship and mentorship are defined, with mentoring suggested as being less focused on instruction and more on positively influencing the mentee through role modelling and guidance. Three key responsibilities of mentors to ensure a successful mentoring experiences are to be a:

1) Role model who assists by example
2) Socialiser who helps to integrate the mentee in the social culture and
3) Educator who assesses learning and plans experiences for the mentee
   (CNA 2004)
As we can see from the above descriptors deemed necessary for ideal mentoring, there is no agreed standardised model for mentors who supervise, teach and assess students in clinical practice. As Pope et al (2003) found, mentoring models had different emphases around the country. At two out of five case study sites, there seemed to be emphasis on the assessment aspects of the role, with a formal tri-partite system in place. The mentor, student and link tutor formed the triad.

**Support for mentors**

Ways to maximise support to mentors have been presented in the nursing and midwifery press (Wilkins & Ellis, 2004 and Jones, 2004). It is time to question whether midwives with a mentoring role are valued and supported. Deery (2005) has identified the need for new models of clinical supervision to support midwives through the bureaucracy which has ensued from large-scale changes, creating stress, burnout and emotional exhaustion for midwives. No separate support for specific mentoring responsibilities or remuneration for mentoring is currently offered (Watson, 2004).

Wilkins & Ellis (2004) suggest that mentors should be provided with a ‘mentor support file’. This is termed the ‘Smile File’ and contains an excellent web link. The site contains information on annual updates, use of ‘patient care journeys’ and menus of learning opportunities for students. In order to provide realistic menus of learning for students, team mentoring is suggested as a framework to support students in the clinical settings (Wilkins & Ellis, 2004).

There seems to be a paucity of literature evaluating team mentoring schemes with reference to the mentors’ perspective. There is also a dearth of information on the impact in clinical settings of mentors working part-time. Effects are being noticed in some midwifery departments (Ball et al, 2001). Students have noted varying opinions on their continuity of mentor where mentors are contracted to work part-time or are studying and take study leave (Pope et al, 2003).
2.4 Rationale and aims of my study

As reported in Chapter One, the aim of my study is to explore how midwives pass on their practical knowledge, from the perspective of student midwives. To address this in depth, one method only (the diary) was selected. As the diaries were collated as part of a large study, it is important to delineate the fundamentally differing aims for each study.

Pope et al's (2003) national research project had an emphasis on investigating preparation and support for mentors. The project entailed addressing very broad research aims and objectives:

(i) The type of experience which both student and qualified midwives obtain in the practice settings

(ii) The educational preparation and role of both student midwives and their mentors in education and practice, including the identification of continuing educational need.

While coordinating several case studies in my role as research midwife, it became evident that rich information was emerging that had minimal relevance to the national project's aims. To provide an example, one student midwife at the first case study site submitted a diary comprising three audio-tapes. This amounted to more than four hours of raw data. Only a few lines were appropriate for use for the reporting process as themes related primarily to systems and processes of education in practice. This meant that some data were not relevant when subject to thematic content analysis.

It was evident, even early in the transcribing process, that audio-diaries were a rich data source that deserved an entirely separate study. Many data were significant enough to form the basis of a discrete study which focused on one area i.e. non-formal learning in practice. After discussions with fellow researchers and the director of postgraduate studies, it was suggested that a separate study could run in parallel with the national midwifery education project.

It is important to emphasise that my individual study is not an 'add-on' to the national research study, but uses a discrete data-set and can therefore stand alone. The new analytic approach to the data has potential to add to the professional midwifery
knowledge base. The use of a distinctly different analytical technique captures contextual information that was often missed through use of the content analysis process.

This thesis will demonstrate that analysis of diaries within a narrative analysis framework show cases subjective features of learning that celebrate rather than ignore the individual language of learners. The new data reveal processes related to how practice knowledge becomes embedded by student midwives in complex maternity settings. The design of my individual study therefore focuses on the pivotal influence of dyadic, relational components of practice learning that enhance or restrict the transmission of midwifery craft knowledge.

2.4.1 Design of the national midwifery education study
Due to the centrality of the national project entitled "An investigation of the preparation and assessment of midwifery practice within a range of settings" (Pope et al 2003) this will now be described. The research was funded by the Hospital Saving Association Charitable Trust (HSA). The project used a case study design to investigate the clinical experience and support of student midwives and the mentors who supervise them. The sample was taken from five sites in England from which cohorts of pre-registration and post-registered midwives were recruited. This three year study used qualitative methodology. Consent and ethical approval were obtained through the Multi-Research Ethics Committee and the Local Research Ethics Committees in each case study site. All key personnel were informed and management permission was gained prior to obtaining access to all Trusts affiliated to the Universities.

The methods used for the national study
All relevant personnel who contributed to the teaching and learning of students and midwives were interviewed. Focus groups, using semi-structured schedules, were held with qualified midwives and groups of pre-registration students on a range of programmes. The timing of each case study was dependent on the students' placements. Approval by the individual Local Research Ethics Committee was essential prior to gaining access to each Trust.
Table 2. Overview of data collected including totals. Pope et al 2003, p 27.

<table>
<thead>
<tr>
<th>Method</th>
<th>Participant</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interview</td>
<td>Student – Initial</td>
<td>19</td>
</tr>
<tr>
<td>Interview</td>
<td>Midwife / Mentor – Initial</td>
<td>19</td>
</tr>
<tr>
<td>Diary</td>
<td>Student</td>
<td>19</td>
</tr>
<tr>
<td>Diary</td>
<td>Midwife / Mentor</td>
<td>18</td>
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<td>Observation</td>
<td>Student &amp; Midwife / Mentor</td>
<td>37</td>
</tr>
<tr>
<td>Interview</td>
<td>Student – end of placement</td>
<td>19</td>
</tr>
<tr>
<td>Interview</td>
<td>Midwife – end of placement</td>
<td>19</td>
</tr>
<tr>
<td>Telephone Interview</td>
<td>Women</td>
<td>18</td>
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<tr>
<td>Interview</td>
<td>Approved Midwife Teachers</td>
<td>19</td>
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<td>Midwifery Tutors</td>
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<td></td>
<td>Lecturers in Midwifery</td>
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<td>Interview</td>
<td>Head of Midwifery</td>
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<td>Interview</td>
<td>Post-registration Midwife</td>
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<tr>
<td>Focus Groups</td>
<td>Students on 3-4 yr and 18 month programmes (10-20 participants per group)</td>
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</tr>
<tr>
<td>Focus Groups</td>
<td>Midwives (6-10 participants per group)</td>
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<tr>
<td>Interviews</td>
<td>Additional Stakeholders</td>
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</tr>
<tr>
<td></td>
<td></td>
<td>272</td>
</tr>
</tbody>
</table>

A sample of women who were users of the maternity service at the time of the data-collection were invited to be interviewed by telephone approximately four weeks after the birth of their babies. Each woman was only contacted after direct communication with the midwife (mentor) who had provided the maternity care. The women were asked in what ways the teaching and learning had impacted on their care.

For collection of in-depth data from 19 pairs of student midwives and their mentors, interviews were conducted at the beginning and end of each students' placement. Diaries (using a guide) for ten working days or shifts were completed and two non-participant observation sessions per pair, in a variety of practice settings were undertaken by a research midwife. Observation visits lasted three to four hours and the aim was to capture the nature of the learning activities, with a specific focus on one student/mentor pair at each visit.
Criteria for recruitment of student midwives to the in-depth (pairs) studies;
Following focus groups, many students expressed interest in participating in the in-depth component of the study. As all participation in Pope et al's (2003) study was voluntary, there was the possibility of an element of bias in that the subjects who volunteered were self-selected. To balance this, the research team used a number of strategies in the research process:

- Over-recruitment of student midwives
- Recruiting students from a range of programmes, for example, degrees and diplomas, both long and shortened.
- Recruitment of students working within different schemes of care, for example, caseloading and team midwifery
- Inclusion of student midwives with clinical placements in a variety of settings, for example, inner city NHS Trusts and rural community placements.

Criteria for recruitment of mentors to the in-depth (pairs) studies;
In the majority of cases, the named mentor was initially approached by the student midwife. Contact information was then relayed to the research midwife or case study co-ordinator for follow-up. The number of mentors recruited across the five case study sites provided sufficient data to demonstrate the range of issues, both positive and negative, related to teaching and learning in clinical practice.

The process of analysis on the large data-set involved using thematic content analysis. As a research team, we disseminated the findings via a report in April, 2003. Recommendations emerged from models of good practice evident in the data (for example, using instances in which mechanisms for placement support for students have been useful, or in which strategies for support of the mentors is proving successful).

The fundamental differences between the HSA-funded study and my own are:
1) Only the student midwives are involved in my study
2) Non-formal knowledge was not specifically explored in the national study
3) The process of analysis is entirely different as discourse analysis uses markedly different techniques from content analysis.
2.5 Definition of the research problem

It is unclear to what extent student midwives develop the non-formal components of practical knowledge from discussion with or observation of their mentors.

The central research question is:

How do midwives share and transmit their practical knowledge when mentoring student midwives in clinical practice?

This study is concerned with the facilitation of learning in practice, more specifically, non-formal learning and the transfer of practical knowledge from the mentor to the student. Kirkham (1997) suggests that we:

lack an appropriate language to express, for example, experiential, intuitive and creative dimensions of midwifery.

Kirkham 1997, p 259.

This lack of an experiential language has provided an impetus to explore transmission of craft knowledge in midwifery. Language is essential for describing the experiential dimension of practice and Eraut's (2000) non-formal learning typology has been selected to provide a framework for students' linguistic expressions of practice learning.

Objectives of the research

Through analysing the students' narratives (using discourse analysis), the objectives are:

1. To explore how practical craft knowledge is generated through the mentor relationship
2. To uncover the range of strategies the mentors use to support non-formal learning
3. To explore the language students employ to disclose their knowledge and to describe more alternative forms of learning
4. To examine how the institutional context influences the promotion of the situated knowledge which underpins practice.
To investigate the area of non-formal knowledge fully, it would be necessary to first assess the level of non-formal (implicit) knowledge that the midwives have. Implicit knowledge cannot be transferred (or mobilised) if the midwives do not express their knowledge. This would entail an examination of both the midwives' and students' narratives. However, in order to achieve the depth of analysis, the focus for this study centres on the students' perceptions and their language used to describe practical and non-formal learning. The aim is to identify if there is a problem in this area. Through advancing knowledge of how clinical skills and 'practice wisdom' are acquired, recommendations for practice will be possible, which could influence the clinical curriculum.

The current emphasis on competency based midwifery training has helped to standardise the type and level of clinical skills needed for midwifery practice. However, it is not clear that this will be sufficient to achieve the aims of the Fitness for Practice report (UKCC 1999). Lam (1998) asserts that the professional model of skill formation de-emphasises the practical and implicit components of knowledge. The invisible parts of the role are often not assessed and yet comprise a significant part of the midwife's scope of practice. Through in-depth investigation of the characteristics of non-formal learning and effects on students' practice, recommendations can be suggested which could add to the existing body of knowledge concerning the theory practice gap.

There is a possible assumption by educators in the literature that embedded knowledge is positive because it contributes to deep learning. Equally, there is an assumption that embodied knowledge is experienced physically and is therefore positive for learners. Student midwives may now spend limited amounts of time with their midwife mentors. What happens, then, if knowledge is only partially embedded? This study explores the resultant ambiguity, fear and other features which have the potential to block the learning of student midwives on a range of clinical placements.
2.6 Summary

How the mentors pass on and transfer their 'craft knowledge' and 'practice wisdom' is crucial to the quality of future midwifery practice and care of mothers and babies. With fewer teachers supporting the learning environment through clinical teaching (RCM, 2003), the mentor/student relationship forms the cornerstone of students' lived experiences of learning to care.

In summary, clinical placements have been described as 'pressure cooker' environments (Eraut et al, 2002) due to the unpredictability and complexity of provision of health care. The systems and culture in England differ from Northern America and Australia because of the existence of the National Health Service. Unfortunately, this service has suffered huge financial deficits (DH, 2006).

Maternity care services have suffered, despite attempts to improve provision through long-term structures such as the National Service Framework for Children (DH, 2004). The need for the midwife to retain autonomy with normal birth remains unchanged. Passing on the craft of midwifery is essential, within complex frameworks of evidence-based care, technological advances and the higher education system in place.

Apprenticeship models have historically offered structured systems for passing on practical skills but offer limited use in today's climate. Non-formal learning remains an under-rated entity. The mentorship role has been viewed as the panacea for contemporary practice but, as Pope et al (2003) found, there are fundamental problems with the structures and functions inherent in this role. There appears to be a lack of consensus as to how to manage teaching and learning within current mentorship frameworks. My research uses this background information to advance theories and make practical recommendations to address this.
CHAPTER THREE

REVIEW OF THE LITERATURE

Searching ‘within’ self
Reveals and creates knowledge
In and from practice.

Titchen and McGinley, 2003 p 115.

3.1 Introduction
Chapter Three is a presentation of a review of the pertinent literature. The purpose is to explore major empirical work and examine theoretical concepts related to acquisition of practical learning. The intention is to increase understanding in this area and identify gaps for further research. Literature has been selected to address the aims of this research study so I will distinguish forms of craft knowledge within a broader overview of the nature of knowledge. Various models of knowledge will be critiqued in Part One to help delineate types of knowledge which emerge in practice. These include Titchen’s (1998) typology of knowledge in practice, Eraut’s (2000) theory of knowledge and Lam’s (1998) model of cognitive knowledge. The latter model is inclusive of the tacit dimension and assists in drawing together personal and collective knowing. The literature will examine key texts around craft knowledge to help define practice know-how related to the student experience.

Part Two centres on ways to acquire craft knowledge, using Eraut’s non-formal learning typology as the underpinning conceptual framework. To examine different ways of knowing in practice, aspects of Vygotsky’s cognitive development theories (1956, 1978) have been applied. The Zone of Proximal Development, in particular, has relevance to my research in that the focus concerns facilitation of students to assimilate knowledge through models of mentorship. This will be described in depth, using key texts within the section on mentoring models and techniques (page 92). Techniques used in cognitive apprenticeship, specifically scaffolding and fading, to enhance learning are explored. The aim is to examine gaps in the literature related to situated support and to critique current strategies for instruction in clinical practice.
3.2.1 PART ONE: ASSESSING THE NATURE OF PRACTICE KNOWLEDGE

The nature of knowledge provides an inherently difficult problem to address. There is no simple definition and even if there was, it would be compounded by the high degree of individual variation in situated learning, combined with the complexity of health care contexts. Dant (1991) maintains that knowledge is socially determined and is what links and binds us:

The social basis of knowledge lies in the categories of meaning used to think or perceive or understand the world rather than in the full contents of cognition.


In his examination of the sociology of knowledge, Dant (1991) makes an important distinction between spoken and unspoken knowledge by suggesting that some unspoken knowledge is hidden within social practices and customs. His theory is relevant to this thesis as he suggests that the hidden knowledge can create marked differences between social groups. Ryan (2005) asserts that working with different knowledges across professions such as nursing, physiotherapy and occupational therapy has potential to be a dynamic force in education but needs to be 'orchestrated' by a competent facilitator. The transfer of knowledge in midwifery seems to be largely assumed, resulting in a dearth of literature in this field. Darra and Norris (2006) suggest this has been caused by the overarching demands of the midwifery role, forcing mentorship issues to become marginalised.

Titchen (1998) has explored knowledge transfer in professional practice. She puts forward the idea of a critical companion as the 'orchestrator' (Ryan 2005) to guide reflection and aid passing on of expert knowledge. The model is described as a helping relationship based on trust, challenge and support in which an experienced practitioner accompanies a less experienced practitioner on a learning journey. The critical companion's role is to help learners to gain insight into their practice ontology (their ways of being a professional) and practice epistemology (their professional knowledge and ways of acquiring, using and creating it).

Titchen and McGinley (2003) assert that through 'blended learning', propositional, personal and professional craft knowledge are contextualised into a potentially transferable form (See Figure 4) yet the authors appear to have overlooked contextual reality and institutional barriers.
The problem with Titchen's typology of practice knowledge is that it implies that there is equal proportional division of these forms of knowledge. Additionally, as shown by the data from students' learning diaries, the interface between each form of knowledge is extremely messy due to the vibrant, challenging nature of contexts where maternity care is delivered. For this reason, I would contend that the critical companion model is incomplete. The separation between personal and professional craft knowledge seems particularly artificial. As Fish and Coles (1998) assert by using an iceberg metaphor, one's personal theory lies just beneath the surface and is heavily influenced by formal theory. To incorporate the 'messiness' found by
Schön (1987), new models of apprenticeship need to be examined, inclusive of context-specific, tacit elements which impact on learning.

3.2.2 Knowing-how

To help examine the essence of professional work, Eraut (2000) presents two parallel definitions of knowledge. The first is 'codified knowledge', or public knowledge. This form of knowledge may include propositions about skilled behaviour but not actual skills or knowing how. Codified knowledge is explicit by definition and therefore has a raised status in educational programmes and in particular in exams.

The second definition of knowledge links with Carper’s (1978) model and concerns ‘personal knowledge’, which may be explicit or tacit. Eraut (2000) defines personal knowledge as the cognitive resource which a person brings with them to a situation, enabling them to perform. It includes experiential knowledge and incorporates skills, competence and expertise (the know-how) but Eraut’s (2000) model remains somewhat simplistic for the purpose of classifying non-formal learning in its entirety.

Models of midwifery knowledge have been adapted from nursing (Kelly, 1987). Carper (1978) classified these different types of nursing knowledge into:

- The art of nursing
- The science of nursing
- The element of personal (implicit) knowledge and
- Ethical or moral knowledge in nursing.

Carper (1978) maintained that an understanding of each of these patterns of knowing is essential for meaningful learning and for heightening awareness and understanding of the intricacy and diversity of nursing knowledge. Rutty (1998) asserts that personal knowledge is the most complex and problematic, but also the most fundamental and essential component of knowing. Kelly (1997) suggests that the term personal implies use of the unique characteristics of the self. This creates a need for heightened self-awareness (Dant 1991) and means that, to function as authentic practitioners, midwives need to challenge their philosophical beliefs about midwifery practice.
What Carper (1978) and Eraut (2000) do not deal with directly is the possibility of movement from one knowledge base to another in clinical situations. Baumard (1999) explains that this is of particular importance when an ambiguous situation arises as interesting decision-making processes come into play at the height of uncertainty. He asserts that intuitive forces must come to the forefront to make the transition to an alternative knowledge base and subsequently change one's mode of knowing. Use of intuitive knowledge will be examined in more depth later in this chapter.

Carper's (1978) ways of knowing have been criticised because they lack context (Johns & Freshwater, 1998). The socio-political aspects are also absent from the Carper's classification model. As described in Chapter Two of this thesis, the context of midwifery is highly complex, particularly considering recent Government policy documents which have impacted on health delivery (DH, 2004).

In nursing and midwifery practice, in order to move towards autonomy it is necessary to address issues of accountability. As Andrews (1993) asserts, we need to take responsibility for improving our own knowledge base of care. Kirkham (1997) suggests this means supporting 'catalysts' in practice. Through provoking feelings of discomfort, these individuals help us gain deeper insights into our practice. We need to perhaps ask whether the institutionalisation of language in health care settings restricts our creativity in concept formation, impeding subsequent theory formation. The relevance to mentoring is that mentors can help students attain conceptual clarity by assisting them in their clinical reasoning and critical thinking. As Cronin and Rawlings-Anderson (2004) state, clinical reasoning is essential to assist with solving problems and predicting outcomes in practice. Mentors need to demonstrate critical thinking by explaining the context, thinking through alternatives to care and showing how they search for new meanings. This involves both inductive and deductive approaches. In their continuum designed to assist practitioners to make sense of professional judgment, Fish and Coles (1998) emphasise the need for practitioners to break out of their habitual ways of seeing, questioning the accepted so moving into deliberative judgment. This can, however, create dissonance between one's espoused theories and theories-in-use (Agyris 1976).

Although transition between modes of knowing has been extensively studied in the management of organisations, what is missing is how these processes of transition
occur for individual learners in the workplace. As Cynthia Edmond (2003) asserts, it is the integration of knowledge which is fundamental to the ongoing development of nursing. She suggests that the internalisation of process and tacit knowledge can create difficulties for both students and qualified practitioners. At an education conference (2003), Edmond expanded on this concept further by theorising that the presence of integrated knowledge is evident only through the quality of explicit performance. She cites Leplat (1990) who characterises skilled performance as:

an activity that has reached a high level of interiorisation identifiable by an execution that is rapid, precise and capable of being performed in parallel with other activities.


Novices often perform using 'rule-bound actions' rather than using a more holistic approach which draws on experiential knowledge (Cronin and Rawlings-Anderson 2004, p 128). This means being alert to the range of cognitive knowledge at play in practice situations. Expertise is described as referring to the 'mechanisms underlying the superior achievement of an expert' (Ericsson 2000, p 1). Expert performance demands deliberate practice and, to mediate this expert practice, the inchoate, tacit elements need to surface.

Lam (1998) describes cognitive knowledge types. Her model includes both explicit and tacit dimensions and is therefore adaptable for healthcare contexts. It incorporates all elements of craft knowledge, making it highly relevant for this thesis. The 'individual' category (incorporating embayed and embodied knowledge) is self-explanatory. The 'collective' category, however, implies groups of learners and the model ignores a separate category which is inclusive of the learner/teacher dyad:
Although the above model has been designed for large organisations, the epistemological dimensions (explicit and tacit) provide an excellent conceptual framework for Part One of this literature review because the model helps conceptualise the essence of craft knowledge. The ontological dimensions (individual and collective) will be addressed separately.

### 3.3 INDIVIDUAL KNOWLEDGE

This includes personal learning and intransitive (or internal) knowledge (Phillips et al 2002). It also incorporates embodied knowledge, much of which is un-codified and therefore frequently untested. Personal biography, memory and emotions (including empathy) are explored within this category. Of key importance for personal knowing is the tacit dimension. This is because tacit knowledge has potential to be made explicit, despite deriving from implicit sources (Polanyi 1967, Eraut 2000). Literature incorporates areas such as artistry, connoisseurship and learning the craft through experiential processes. Emphasis is on acquisition of know-how through individual learning and reflection to assist in addressing the research aims and objectives.

The central research question for this thesis demands uncovering how midwives share their practical knowledge when mentoring student midwives in clinical practice. Before embarking on this systematic inquiry, it is necessary to use the literature to interpret and define what this practical, craft knowledge actually is. To help unpick
this multi-layered, complex form of professional knowledge, this section combines Lam’s (1998) definition of embrained and embodied knowledge with Eraut’s (2000) theoretical analysis of modes of cognition in professional practice, namely analytic (or deliberative) and intuitive knowledge.

### 3.3.1 Embrained knowledge (Lam 1998)

This form of knowledge is formal, abstract, and theoretical. Lam (1998) asserts that embrained knowledge is dependent on the individual’s conceptual skills and cognitive abilities. Complex processes are involved in assisting knowledge to become embrained as this knowledge is highly individualised.

Embrained knowledge has a privileged status in western culture (Chester, 1997; Nonaka and Takeuchi, 1995) and takes precedence over craft knowledge (Higgs 2001). The scientific, evidence-based, explicit nature of propositional knowledge means it can be quality assured. Eraut (2000) asserts that, because this knowledge is objectified and propositional it can be utilised in analytic, deliberative ways. Meerabeau (1992) argues however that the technical-rational knowledge can ‘drive out’ artistry as knowing ‘that’ often takes precedence over knowing how (p 108). The technical can be written, accounted for and audited, thus ‘squeezing out’ the hard to capture artistry inherent in practice.

### 3.3.2 Craft knowledge

Craft knowledge refers to professional knowledge, sometimes termed practical wisdom or artistry. It is the action-oriented knowledge which is not usually explicit (Ruthven, 2000). Artistry is defined as thinking-in-action and includes individual practice epistemology. The focus is on praxis, rather than on technique (Smith MK, 2005). Schon (1983) asserts that effective performance cannot be reduced to technique only as there will always be a ‘foundation of non-rational, intuitive artistry’ (Schon, 1983 p 239). Espoused theory cannot always guide practice and artistry is required, to navigate the ‘indeterminate zones of practice’ and find ways to practice within professional rules. Professional artistry will therefore be displayed in more unique, uncertain and conflicted situations in practice and also incorporates coping with ambiguity in practice (Higgs, 2001).

Beliefs and values contribute to what Higgs and Titchen (2001) term the primacy of practice. Eisner (1998) asserts that progression through ways of knowing demands
both artistry and connoisseurship. The latter word is said to derive from the Latin 'cognosere' to know, which involves the ability to see, rather than simply look. It commands naming and appreciating the different dimensions of experiences, and interrelationships with situations (Elise, 1998 p 63). Criticism is a necessary ingredient within connoisseurship and functions as the catalyst to perception (Smith M, 2005). How can students access this form of knowledge when so much is tacit and goes beyond everyday language, demanding attention to the invisible? The 'silent knowledge' may be acquired implicitly (Higgs and Titchen, 2001).

Rutty (1998) reminds us of the 'silent knowledge' which was embedded in the practice that women brought to nursing and midwifery at the beginning of the twentieth century. Rutty (1998) asserts that in the mid-twentieth century, nurses 'borrowed' knowledge from other disciplines (for example, psychology and anthropology). Theorists began to conceptualise nursing care in new ways. Changing the focus aided the expansion of the boundaries of nursing knowledge and saw the beginning of art and science being combined.

As Cronin and Rawlings-Anderson (2004) suggest, we need to define the actual knowledge which underpins nursing and midwifery practice so that we can make decisions and judgments based on best evidence. However, as these authors point out, there is no consensus as to what counts as important knowledge. This is evident on examination of the work and writings by Carper (1978) and Benner (1984) where contradictions exist. Each has tried to identify nursing's unique knowledge base. Carper, in the 1970s, explored knowledge 'that', examining the patterns in our ways of knowing. Benner, in the 1980s compared theoretical knowledge versus practical (knowledge how). Belenky et al (1986) claimed that women's thinking was previously stereotypically viewed as emotional, intuitive and personal. This obviously devalued the rational contribution women were making to knowledge in western cultures. Their interpretations of knowledge will be examined in more detail and will confirm that knowledge is a dynamic process, constantly changing and is:

..a highly sophisticated integration of the experience of the moment with the processes of the mind.

Whittemore 1999, p 32

Kennedy and Lowe (2001) suggest everyday clinical practice is filled with paradoxes stemming from who defines knowledge and how it is generated. I would suggest that
our knowledge base is currently not entirely congruent with midwifery practice. Ruthven (2001) asserts this may be because craft knowledge has not been codified. This has created a lack of synergy between scholarly knowledge and craft knowledge.

Benner (1984) maintained that, because nurses have not been careful record keepers of their own learning, the uniqueness of the knowledge embedded in expert clinical practice has been lost, leading to stunting of theory development. Cronin and Rawlings-Anderson (2004) purport that some nurse theorists have put forward ideologically biased theories, based on assumptions, which need to be more deeply analysed and scrutinised. Rather than continuing disputes about the definition of knowledge, the authors suggest a return to the roots of philosophy, with its emphasis on wisdom. The Greeks historically defined the components of wisdom as being truth, reason, reality, politics, ethics, logic and knowledge. Gadou (1990) maintains that the notion of ‘objective’ knowledge is flawed in that all knowledge is contextual and personal because we cannot disengage from our subjectivity and emotions.

3.3.3 Embodied knowledge (Lam 1998, Benner 1984)
Embodied knowledge is defined as knowledge gained through the body. Kerka (2002) suggests it demands an ability to attend to information received from the ‘self’ as it interacts with the environment. It may be termed somatic knowing because it involves the senses and perception. Embodied knowledge is not only contextual but also emotional as there are many levels of knowledge, for example, learning through touch (Sandelowski, 1997). It is often described as action oriented know-how which is context-specific. Mastery of a craft involves grasping the taken-for-granted embodied know-how or habitus (Bordieu, 1991). Davis-Floyd (2004) asserts that problems can arise from bodily habituation and the ‘rhythmic repetition’ created by ritual and imprinting of core beliefs. This embodied knowing through personal, intransitive (or internal) processes involves embodied intelligence and a degree of ‘emotional attunement’ (Benner et al, 1996).

Aesthetic embodied knowledge also involves a combination of feelings, humour and comportment (Higgs 2001). Estabrooks et al (2005) refer to embodied know-how as ‘a priori’ as it embraces subjective experience, personal beliefs and common sense. The latter is rarely alluded to in the literature yet can enrich professional craft knowledge stores. Lam (1998) suggests embodied knowledge promotes individual
learning and autonomy. I would suggest that knowledge which is embodied is notoriously difficult to articulate, test and assess. The subjective nature of this somatic habituation may actually produce negative imprinting, which is obviously harmful to both learning and midwifery practice. Additionally, Estabrooks et al (2005) contend that the fact that aesthetic ways of knowing are not publicly available for scrutiny means that legitimacy is questionable.

Davis-Floyd (2004) questions what is often seen by midwives as tradition. This may encompass midwifery lore, myth, superstition and ‘old wives’ tales’. What is significant is that rarely are these oral traditions and verbal accounts written down. Benner (1987) asserts that some transmission of tacit embodied know-how relies on maxims passed on by mentors and intuition of learners. Paley (2004) criticises Benner’s definitions of rational knowledge (linked with certainty) and embodied knowledge because she makes no clear distinction between embodied knowing and what she terms ‘intuitive’ knowing.

Field (2004) also critiques Benner’s model of expertise in nursing and her approach to embodied cognition. She asserts that how expert practitioners impart their expertise is not clarified in the novice to expert model. Systems for distributed knowledge and expertise appear to have been overlooked. This certainly creates a need for research in this area. With specific reference to midwifery, Berg and Dahlberg (2001) termed midwives’ level of embodied knowledge as ‘midwife-sense’. Unfortunately, this term does not encapsulate the integrated essence of practice knowledge in varied contexts and settings where maternity care is delivered.

Kerka (2002) purports that embodied learning is being increasingly incorporated into workplace environments where situated learning takes place. I would suggest that, in fact, student midwives struggle with somatic learning as a concept as emphasis continues to be placed on the cognitive domain.

Jocelyn Lawler (1991) suggests that a somological approach uses knowledge from practical professional experience. Lawler’s research provides seminal information on how the body is managed by nurses in their daily work. The research stemmed from nurses’ perceived discomfort with the body and the fact that body work is termed ‘dirty work’ and is therefore ignored by academia. The invisibility of this aspect of the nurse’s role meant that nurses needed to:
socially negotiate the various norms, values, taboos, beliefs and learned ways of behaving with respect to the body.


How student midwives are prepared to deal with intimate examinations, for example, vaginal examinations, is highly relevant and Stewart (2005) has demonstrated that midwives do not always diagnose cervical changes accurately, thus impacting on the quality of knowledge transferred to student midwives. There is minimal literature concerning a language for intimacy in midwifery practice (Hunter 2001).

3.3.4 The ‘intimate space’
Dalton (2005) undertook a small ethnographic study in a rural health setting in Tasmania, Australia. The aim was to discover to what extent a sample of student nurses integrated their classroom learning with the reality of clinical experiences. Dalton refers to clinical space as the ‘living classroom’ and has produced a conceptualisation of clinical environment spaces:

Figure 6. Conceptualisation of clinical environment spaces Dalton 2005, p 128.
Dalton (2005) found that how student nurses traversed the clinical spaces was indicative of their personal and professional development. Although the actual sample size is not revealed, Dalton’s conceptual model has potential for wider use with other health care students, in particular, student midwives. The differing levels of support needed at the various stages of their development was found to be generic. Navigating the ‘nursing domain’ created less discomfort than performing within the ‘intimate space’ which some students described as overwhelming. This finding evidently has implications for professional preparation of healthcare students in attending to emotional as well as clinical skills.

3.3.5 Emotional competence and skills

Ragozzino et al. (2003) maintain that educators and policy makers are increasingly discovering the importance of the critical role of development of social and emotional skills among students. The broad aim is to produce caring, responsible and knowledgeable students and through attention to emotional awareness, to improve academic performance and commitment to others. The authors define social and emotional competence as:

The capacity of recognize and manage emotions, solve problems effectively and establish and maintain positive relationships with others.

Ragozzino 2003, p 169

There has been minimal work specifically concerning the emotional climate of mentor/student relationships. Hunter (2003) has undertaken a grounded theory study to examine the management of emotion in midwifery. In focus groups, student midwives began to tell their stories and apparently described the emotional work of being a student. The focus, however, seems to have been on dramatic stories of births the students had been involved in rather than on the management of emotions on a more daily basis. An important finding in Billie Hunter’s study was that how emotions were handled affected the quality and depth of learning. However, one is left asking; to what extent were mentors involved in assisting the student midwives to disclose their emotions? It is evident that midwives need to develop a deeper understanding of emotional processing.

Freshwater (2004) asserts that the role of emotional learning and competence in the nurse curricula needs to be examined by educators and placed at the core rather than on the periphery. The rationale is that through emotional intelligence being
addressed, students will be empowered to manage emotionally charged situations. Emotional Intelligence is the art and science of understanding your impact on others and being able to co-operate with the human frailties and subtleties of other human beings (Goleman, 1998). A more recent focus is directed towards social intelligence, which is based on the human aptitude for relationship because Goleman (2006) asserts that interactions with others may be nourishing or toxic. This links directly to Darling’s (1984) notion of the ‘toxic’ mentor and the whole area of relational learning.

Evans and Allen (2002) suggest emotional and social competence should be embraced in the caring professions. The authors describe a model of holistic education that incorporates emotional and social intelligence, using Bloom’s cognitive and affective taxonomies of learning. Exposing student nurses to this educational process was found to enhance their emotional reasoning. Students who were part of the process used their emotional intelligence to respond to and assimilate practice knowledge. The use of social ‘circuitry’ (Goleman, 2006) could be tested in mentor preparation programmes.

Arlie Hochschild (2003) describes emotion work as deep acting. She asserts that feeling rules guide emotion work by establishing the sense of obligation that governs emotional exchanges (p56). When care is task orientated and routinised, and when professional relationships with clients and patients are hierarchical, ‘surface acting’ ensues. If midwives are not prepared emotionally, there is a risk of developing affective neutrality (Hunter 2003). Cunningham and Kitson (1997) suggest that, to reduce what Hochschild terms the ‘commercialisation of human feeling’, emotion needs to be re-placed. Among other innovations for developing leadership in practice, action learning was found to reduce anxiety. Some midwifery curricula include problem-based (or enquiry based) learning to assist students to reflect on specific instances in practice (Brown, 2006). EBL describes an environment centred on enquiry processes which are owned by the student. The process may involve group or individual work.

In their study on achievement behaviour, Thompson and Hepburn (2003) found that students often experienced doubt and anxiety as a consequence of non-contingent evaluative feedback. Participants (N=72) who were undergraduate students, were found to engage in ‘self-handicapping behaviour’ leading to reduced practice effort and performance. Although a relatively small study, the links between causal
uncertainty and performance (in this case of unicursal tasks) are significant.

Randle (2003) undertook a longitudinal study to evaluate changes in self-esteem of student nurses during a 3 year diploma in higher education. Self-esteem was measured using the Tennessee Self-concept Scale. Students (n=56) also participated in unstructured, qualitative interviews at the start and end of their course. Results apparently showed that global self-esteem decreased dramatically between the start and end of the programme. The fragmentation of self-esteem led to students feeling powerless. The findings from Thompson and Hepburn’s study (2003) and Randle’s (2003) research provide worrying evidence of the blocks students are encountering in their learning.

Cornelius (2003, personal communication) suggests that vulnerability in the workplace creates a need for compassion but expression of a need for support may lead to shame and guilt in the vulnerable person. This can create a stigmatizing effect which, in turn leads to divisiveness of the workforce. At an ‘Emotional Learning’ seminar series (funded by the ESRC in 2002/3) discussions centred on how people can ‘flourish’ despite the problems encountered concerning their emotional state (Cornelius 2003). Taken a step further, we should perhaps be asking how health care students can reach their full potential in the current emotional climate.

Marris (1996) asserts that uncertainty is always troubling. However, the management of uncertainty is very individual. Through strategies of control and avoidance we try to hide our self-doubt and personal inadequacy, so attempting to contain our uncertainties.

Containment (Bion, 1962) is a psychotherapeutic model developed to assist in dealing with emotions such as anxiety in organisations. It has been suggested that some anxiety is, in fact, a positive asset in the workplace (Bion, 1962). He purports that emotional problems connected with learning to care need to be actively addressed in order to ‘contain’ them:

Containment metabolises, responds and makes feelings bearable so that feelings are listened to, heard and acted upon at both an individual and organisational level.

We need to question whether containment of student midwives' emotional responses to learning in practice mitigates against the potential for their voice to be heard. The work by Benner (1984) and Belenky et al (1988) has emphasised the importance of 'voice' to help analyse the multiple processes inherent in individual learning.

3.3.6 Seeking the professional voice
Belenky et al (1986) performed an in-depth study of the learning and lives of 135 women, using individual interviews. The discussion of women's ways of knowing has added to our knowledge of how women learn as the focus is on epistemological perspectives and how women view the world. All the student midwives in the sample for my research are women so the identification of separate ways of knowing was relevant.

Different ways of knowing are put forward by Belenky et al (1986):

<table>
<thead>
<tr>
<th>Class</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Silence</td>
<td>Women described feeling voiceless and passive and depended on authenticity in order to learn.</td>
</tr>
<tr>
<td>Received knowledge</td>
<td>Women believed what they were told and learning was generally non-reflective.</td>
</tr>
<tr>
<td>Subjective knowledge</td>
<td>More intuitive knowing, relying on feelings. Less holding on to authoritarian regimes from their past. Subjective knowledge was also often painful and uncomfortable due to the need to ‘wrench away' from familiar patterns of knowing.</td>
</tr>
<tr>
<td>Procedural knowledge</td>
<td>This was divided into two elements: Separate knowing and connected knowing as many women needed procedures to help enhance knowing and understanding. In separate knowing, women were found to be more sceptical. The women in the sample recognised that their gut feeling and intuition may not be reliable. They began to doubt and see that there could be multiple interpretations of things.</td>
</tr>
</tbody>
</table>
In connected knowing, there was less subjectivity and women were learning to be critical thinkers. They apparently showed an increased capacity for empathy and learning was more planned and deliberative. Women were more conscious of the ‘self’ within relationships, so enabling active participation in learning (Belenky et al, 1986).

The procedural elements of expression of knowledge are particularly relevant to how student midwives described their learning. The features of separate knowing, within the procedural knowledge category, may provide clues as to the missing links in Eraut’s typology of non-formal learning between reactive and deliberative modes (See Figure 8, p 93). It is unfortunate that Belenky et al’s sample did not include more women who revealed ‘connected’ knowing within the procedural category.

Dearnley (2006) performed an interesting research study which investigated how nurses found their ‘professional voice’. Using Belenky et al’s ‘Ways of knowing’ model (1986), Dearnley showed how some participants moved through the core categories of ‘hesitant’, ‘liberated’ and ‘dynamic’. How learners progressed beyond positions of procedural ways of knowing and reaching levels of self-actualisation were summarised but more quotes would have been helpful to see how categories had been applied.

There is evidently a need for ‘connected teaching’ which both harnesses latent knowledge and provides resonance between the personal and professional (Belenky et al 1996). This is because a health professional’s personal learning history often seems to be neglected (Volante, 2005).

3.3.7 Biography and individual learning history

To promote active learning, the influence of prior learning should not be underestimated (Dochy et al, 2002). The authors challenge Bloom’s theory that cognitive entry behaviours are imperative for learning. Dochy et al (2002) define prior knowledge as:

The whole of a person’s knowledge, which is as such dynamic in nature, is available before a certain learning task, is structured, can exist in multiple states (i.e. declarative, procedural and conditional knowledge), is both explicit and tacit in nature and contains conceptual and meta-cognitive knowledge components

The authors maintain that, rather than focusing on aptitude, prior knowledge and skill should be assessed as it provides both a precise predictor of learning and a springboard for future learning. Dochy et al (2002) stress the importance of incorporating prior informal as well as formal knowledge in the learner's profile.

Students may not be aware of the non-formal learning processes which occur through elements such as the media (potentially widening a learner's symbolic reality and ability to read visual knowledge) and family life. Empirical studies by Aittola (1999) have demonstrated how powerful values may be transmitted which are conducive to personal growth, such as learning to assume responsibility, flexibility, an appreciation of work and tolerance of difference.

Our individual learning history is said to lead to a pattern of activity (Diens and Perner 2002). However, as Eraut (2000) maintains, the different learning histories which learners bring with them are often overlooked. Boud et al (1993) emphasise that much is lost by ignoring the uniqueness of each person's history and ways of experiencing the world. Benner (1984) asserts that previous knowledge is important as it helps define experiences. Diens and Perner (2002) suggest this personal history is hard to access because this form of knowledge lies within our implicit memory.

3.3.8 Memory and learning

In her chapter 'Knowing and Forgetting' in a book centred on praxis, Margrete Sandelowski (1997) purports that knowing is more than a cognitive event. She describes how consciousness is experience as well as awareness of experience. Eraut (2000) describes how a selection of lived experience enters the long-term memory but may not be a conscious or deliberative process. How, then, does implicit learning affect our future behaviour?

Eraut (2000) draws on Tulvig's (1972) theory of memory which has since been adapted by Horvath et al (1996). Episodic memory (used for specific events which have been personally experienced) is distinguished from semantic memory (used for more generalised knowledge that transcends particular episodes). It is the traffic between these forms of memory and the links with experiential learning which make this area particularly relevant to my own study i.e. the transference of knowledge from mentors to students.
3.3.9 Implicit knowledge and implicit understanding

Reber (1967) identifies implicit learning as that occurring 'unconsciously'. One example is the process of learning rules. This may be because implicit knowledge actually resides in the context outside a person’s main focus of attention (Marsick and Watkins, 1990). Student midwives may have to acquire some of the language and 'secret' knowledge of midwifery practice through non-verbal behaviour of their mentors and symbols communicated in different ways. Benner (1984) suggests that these cryptic instructions that the experts pass on are known as maxims. The students' interpretation of episodes of care and interactions by different individuals are based largely on observation of practice. An exploration of the language students employ in the development of more alternative forms of learning and understanding will illuminate how some implicit elements of midwifery knowledge may be untapped.

Implicit knowledge has been identified as being subjective and is one aspect of tacit knowledge. Knowledge acquired implicitly is the 'raw' learning which is hard to explicate (Reber, 1967). There may be a dissociation between verbal knowledge and actual performance of a task. This requires what Reber (1967) terms idiosyncratic devices, which depend largely on individual awareness and representation. Much midwifery knowledge can be articulated explicitly but how are implicit elements articulated and transferred when this form of knowledge is not codified and is so context-specific? Much midwifery care involves skilful improvising and making speedy, accurate assessment of situations (Robinson, 2002). Student midwives are expected to socialise into implicitly understood practices for example; demonstrating empathy and compassion, knowing when to be silent and when to withdraw from situations. Other skills involve humility and provision of intimate care (Hunter, 2001).

The acquisition of a student's knowledge base from the mentor affects their decision-making and professional judgement. Do we know how students acquire skills such as perception, empathy and compassion? Polanyi (1967) maintains that perception is an inferior element of practice, whilst Benner (1984) conversely suggests that perceptual awareness is, in fact, central to good nursing judgement. The diaries show styles of decision framing and use of non-formal knowledge, not only for more critical incidents (for example labour ward experiences) but also within simple activities such as helping women with breastfeeding their babies.
Benner (1984) purports that the expert practitioner is able to demonstrate implicit understanding, knowledge and skills but is not able to articulate all she knows.

Polanyi (1967) stated that a large part of human knowledge cannot be articulated, especially the know-how acquired through practical experience, suggesting that:

\[
\text{We know more than we can tell} \\
\text{(Polanyi 1967, p 39)}
\]

What modes can assist this knowledge to be transferred from the mentor to the student?

Lam (1998) explored the role of implicit knowledge in organisations and argues that it is the interaction between explicit and implicit modes of knowing which is vital for the creation of communities of practice and subsequently, creation of new knowledge. Lam (1998) suggests that implicit knowledge is organic and needs to be mobilised or it remains latent.

Discovering how student midwives acquire a working vocabulary while working within extended episodes of care, combined with their motivation will affect the amount of learning-both formal and non-formal (Eraut, 2000). Differing levels of engagement with the women and their families by each student midwife will exist. Knowledge of the woman, her context for care, linked with the need to find alternative solutions will have an impact on how student midwives begin to make professional clinical decisions. How students think through and articulate these strategies has not been previously investigated.

\[
...\text{practitioners create new knowledge, but it is often not codified, or published, nor is reflection and discussion often possible in the work environment.} \\
\text{Meerabeau 1992, p 110.}
\]

Atherton (2005) suggests that tacit learning is about the content of what is learned whilst implicit learning concerns the process. Tacit knowledge will now be described.

### 3.3.10 Tacit knowledge

Born in Hungary at the end of the nineteenth century, Michael Polanyi studied medicine and became a chemist before contributing significantly to the area of ‘tacit knowing’ and discovery. Polanyi (1967) identified that this pre-logical form of knowledge can be brought together to aid formation of new models and theories.
Tacit knowledge comprises a range of sensory and conceptual information. It is defined as something which is:

implied, understood, inferred, but not openly expressed or stated

Reviewing the structure of tacit knowledge in practice is necessary because, as Polanyi asserts, tacit powers are vital for comprehension. The purpose is to unpick the types of tacit knowing which often remain inert within expert know-how. This will enable a fuller overview of modes of cognition and the challenges involved in untapping professional craft knowledge.

What does tacit knowledge look like and what form does it take?
Based on a number of authors, tacit knowledge can be characterised as follows:

- ‘that which we know but cannot tell’ (Polanyi, 1967)
- personal knowledge-deeply rooted in individual experience and expertise (Eraut, 2000)
- a pre-logical form of knowledge (Polanyi, 1967)
- the ‘black box’ of human cognition (Baumard, 1999)
- pre-scientific knowledge (Eraut, 1995)
- mysterious (van Krogh et al, 2000)
- idiosyncratic know-how (Baumard, 1999)
- tacit is experiential, subjective and personal, therefore difficult to convey (Evans, 2004)
- latent knowledge (Lam, 1998)
- subtle, layered organic knowing (Lam, 1998)
- sticky (Zander, 1991)
- tacit knowledge and skills form key elements of mastery (Eraut, 2004)
- discovery of hidden truth (Smith, 2003)
- may include deep structures from the emotional memory (Denzin and Lincoln, 1994)
- ‘bureaucratic’ tacit knowledge includes understandings about written and verbal communications and language-conversations for ‘other purposes’ (Denzin and Lincoln, 1994).
• Knowledge which is 'deeply sedimented' and forms the hallmark of a profession (Meerabeau 1992)

Denzin and Lincoln (1994) contend that tacit knowledge is non-explicated and non-discursive knowledge. It not only includes what people take for granted in their learning from formal and semi-formal situations, but may also include emotional memory and commonsense resources for understanding utterances and acts. Van Krogh et al (2000) remind us that tacit knowledge is often difficult to describe to others but is a powerful tool for innovation. Although mysterious in many ways, this form of knowledge is context-specific and therefore worthy of measurement.

In his description of the structure of tacit knowledge, Polanyi (1967) suggests that in order to derive meaning (both intellectual and practical), we achieve comprehension through indwelling. This is said to derive from tacit knowing and aids what Polanyi terms ‘interiorisation’. He suggests that:

Observing skilful performance involves combining mental movements in a similar pattern to the performer’s.

Polanyi 1966, p 29.

It must be acknowledged that this involves different types of comprehension on the part of the learner. Polanyi (1962) in his book 'Personal Knowledge' suggested that to shape skilful knowing, clues and tools are needed as an extension to our body. Comprehension is not passive because focal subsidiary awareness can create physical change. Polanyi (1962) uses the example of hammering in a nail, suggesting that the feeling in the hand is 'subsidiary' awareness and actually driving in the nail demands 'focal awareness'. It is the act of commitment which apparently prevents personal knowledge from being merely subjective.

However, the tacit character of knowledge leads to articulation problems because it is so unspecifiable. This inarticulate, latent knowledge calls for what Polanyi (1962) terms ‘potentialities’ which arise through the interpersonal nature of language, for example, emotional expression. The pre-logical, intangible nature of personal tacit knowledge often involves use of metaphors or images. This is very relevant to the discourse patterns emerging through the sample of student midwives’ audio-diaries included in this thesis.
Discovering hidden truth through informed guesses and hunches may also occur tacitly (Smith M, 2003). The process of discovery in this context has become known as connoisseurship. Smith (2003) suggests that, by deepening our understanding of Polanyi’s conception of the tacit dimension we can more fully comprehend the intuitive aspects of non-formal learning in a range of practice contexts. Smith (2003) appears to have failed to address the knowledge acquired through acculturation, constructed through experience and the tacit knowing which can arise from relational learning. Additionally, Herbig et al (2001) suggest that tacit knowledge can result in error because a person’s reasoning may actually be inaccurate but because it does not surface, it is never examined.

An important argument arises in the literature concerning whether tacit knowledge can be made explicit. Meerabeau (1992) states that, due to the indeterminacy arising from the private component of tacit knowledge, it cannot be made explicit. Eraut (2000) maintains that it is possible for the tacit to be made explicit but problems exist in professional education, which may mitigate against it. Several studies have demonstrated that strategies can assist in drawing out the tacit components of knowledge. For example, Carlsson et al (2000) carried out re-enactment interviews with qualified nurses to help reveal tacit caring knowledge. The interviews, using a psychodrama approach, draw on memory and were found to uncover hidden meaning and also powerful emotions. Minimal information is provided with regard to the analytical framework and process of analysis. Evans et al (2004) used dynamic concept analysis to explore tacit forms of personal competences of a sample of adults re-entering the workplace through further education and training routes. A matrix was developed to describe individual learning processes. The concept analysis framework is clear and has potential to be used more widely.
The diagram below shows a conceptualisation of the process of tacit knowledge:

![Diagram of tacit knowledge process](image)

**Figure 7.** Process of tacit knowledge, showing underpinning by formal knowledge (From Welsh and Lyons 2000 p 3).

### 3.3.11 Intuition

As suggested by the above diagram, intuitive knowledge is said to be informed by tacit knowledge. Johns and Freshwater (1998) assert that the validity of intuition in professional practice has been debated at length but there is still no global definition. Intuition has been described as being:

...the manifestation of tacit knowing, a knowing that is deeply embodied but unable to be expressed in rational ways.


Intuition may be too ‘slippery’ to be quantified and tested (Chester, 1997) and therefore problematic to teach. Rolfe (1998) suggests intuition may be pattern-making in action. This could provide a basis for suggesting how intuition could be taught. The first step involves the analysis of the language in use. Many midwives have rich stories which portray intuitive judgement. We need to perhaps offer student midwives a channel to describe intuitive elements of their non-formal learning. Ling and Luker (2000) explored a sample of health visitors’ self knowledge and concluded
that a palpable level of intuitive awareness existed. The processes of filtering and sifting information involved health visitors using symbols, constant awareness and having skills to de-familiarise the familiar. These were found to fall into the suppressed dimension of practice and yet several health visitors in the sample described sensing ‘vibes’, uneasiness or feeling aware of what Ling and Luker (2000) term the ‘silent alarm’.

In a television documentary on how the human mind works, Sir Robert Winston (BBC 2003) found that firefighters at one incident had been called to a seemingly normal fire. The team leader sensed danger and ordered the team to withdraw. There was subsequently a back-draught which led to an explosion. Although the team leader was unable to describe specific reasons for withdrawing the fire crew, analysis revealed that his experience had led him to diagnose what was missing at the scene, (in this case, noise).

Robinson (2002) cites senior, experienced midwives such as Mary Cronk. In line with the above fire incident, Cronk apparently dismisses the view that intuition is ‘the spiritual perception of immediate knowledge’. She sees intuition instead as the ‘subconscious computation’ of a combination of past experiences and current observations but without a process of conscious deduction. We perhaps need to question the approaches used to demystify explicit and implicit craft knowledge for student midwives.

3.3.12 Reflexivity and learning

Johns (1995) suggests that learning through reflection involves a process of personal deconstruction and reconstruction:

...the obligation to care for another human being involves becoming a certain sort of person and not merely doing certain kinds of things.


Reflection is said to be a conscious awareness of learning, which involves intentionality and is enhanced by active application of concepts in practice. As Marsick and Watkins (1990) suggest, much informal and incidental learning takes place with little conscious reflection, which needs to be an ongoing dialectical process.
Kavanagh (2000) asserts that development of qualities such as caring and empathy go unacknowledged by placement assessment forms. These qualities, are, however, said to be vital to the placement experience. Confronting one's own qualities and personal development involves what Kavanagh (2000) describes as looking in the 'messy mirror'. She uses Fish et al.'s (1990) model of reflection. The most significant strand for my own research is the substratum strand. This involves examining one's assumptions, attitudes and values and also exploring the hidden agenda. This creates links with Denzin's (1995) description of the audio-diary as an 'acoustic mirror' and Schön's (1987) analogy of a 'hall of mirrors'.

Griffiths (2004) suggests that, to effectively unearth the past, a new model of reflection is needed. He cites Reece-Jones and Mackintosh (1998) who contend that:

reflection is a fundamentally flawed strategy because it is based on an uncertain framework and its benefit to nursing is unproven.


Additionally Cotton (2001) cited by Cronin and Rawlings-Anderson (2004), suggests that all current conceptualisations of reflection lack neutrality. Nurses (and midwives) are subsequently expected to reflect within a model of uniformity and conform to the institution, with minimal support mechanisms in place for individual reflection.

Taylor and White (2000) argue that it is, in fact, shared reflexivity which demands more attention. The authors examine reflexivity in decision-making and challenge the ways practitioners currently contribute to understanding and meaning-making in practice. They draw on the discursive psychology movement and demonstrate how words and language have powerful consequences. Part of the problem derives from the fact that when, for example, health care professionals examine cases (for example, case records) the reports are often confusing and ambiguous. The language we use can create uncertainty of knowledge. Taylor and White (2000) therefore advocate for shared reflexivity in order to form more objective and dispassionate judgments.

What has not been examined through much of the current literature is how informal (and non-formal) learning can be enhanced. Marsick and Watkins (1990) identify critical reflectivity as a key enhancer. Critical reflectivity is related to surfacing and
critiquing of tacit, taken-for-granted assumptions and beliefs that need to be examined in order for reframing of problems. This, of course, links with achievement of what Eraut (2000) terms deliberative learning. This is planned, intentional, reflective learning.

The diary segments brought to this research demonstrate a variety of levels of competence, creative thinking and sometimes practical intelligence which students articulate. Non-formal learning experiences have previously been devalued and yet, as Boud et al. (1993) suggest, significant personal learning experiences are a powerful force in learning and help us reframe our practice. It is the personal learning and reflection which can assist learners in dealing with experiential variation.
3.4.0 Defining embedded knowledge
As suggested by Lam (1998) enculturation involves cognitive knowledge being encoded and embedded. The collective processes have potential to transmit powerful learning. These will be explored before examining how knowledge becomes embedded, using Eraut's (2000) typology of non-formal learning, experiential learning theories and Vygotsky's (1956, 1978) instructional theories as underpinning frameworks.

Knowledge is said to be shaped by the context in which it is acquired and used and learning therefore comprises a set of activities to embed knowledge and a set of social relations to assist this (Eraut 2000, p 130).

This form of learning is described as:

The way in which individuals or groups acquire, interpret, re-organise, change or assimilate a related cluster of information, skills and feelings

It is for this reason that the students' diaries have been selected as a method to address the research aims. They provide detailed contextual information and expressions of the processes by which knowledge became individually embedded.

3.4.1 Encoded Knowledge (Lam 1998)
Encoded knowledge is sometimes referred to as information and is often conveyed through signs and symbols. Lam (1998) describes this knowledge as being codified and stored in written rules. This has relevance to Midwives Rules and Standards (NMC, 2004). Encoded knowledge is usually public knowledge which is mechanistic and hierarchical in nature. Fitness for Practice (UKCC, 1999) emphasised a competency approach to practice. This concept has been explored further by Scott (2003) who suggests that contradictions now exist between student-centred learning and the 'pre-defined, prescribed and standardised learning outcomes of competence approaches' (Scott 2003, p 6). Other authors maintain that students demonstrate reluctance to learn unless there is a stated learning outcome or guidance in the form of procedure manuals (Ecclestone 1999, Watkins 2000).
3.4.2 Mobilising knowledge

Miller (1998) asserts that knowledge created during, for example, the Roman empire expanded the Roman power base. Underground heating and heating systems are examples of the legacy which continues as the knowledge has been passed on, shared and developed. This contrasts with authoritarian regimes in which knowledge is suppressed, thereby creating divisive systems. Miller goes on to suggest that four interacting elements are required in any organisation to enable continuity of knowledge development:

<table>
<thead>
<tr>
<th>Data</th>
<th>This is neutral and often consists of structured sets of records with no meaning. In midwifery departments this would present as birth registers, statistics and notes.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Information</td>
<td>This is relevant data, for example, women’s antenatal booking histories.</td>
</tr>
<tr>
<td>Knowledge</td>
<td>This implies education, experience and intelligence and is obviously harder to capture in a large organisation.</td>
</tr>
<tr>
<td>Wisdom</td>
<td>Collective wisdom is said to be even harder than knowledge to pin down but can be an excellent resource if expression is enabled.</td>
</tr>
</tbody>
</table>

(Adapted from Miller 1998, p 15).

Harnessing the experiential attributes of a craft demands integrating the range of knowledges. Nonaka and Takeuchi (2000) assert that interaction of modes of knowledge constitute the 'engine' of the whole knowledge-creation process (p 57). They state that it is, however, essential to differentiate between knowledge and information. As suggested by Ruthven (2001) craft knowledge may remain untapped if knowledge is not recorded in a way it can be shared.

3.4.3 Experiential Learning

Experiential learning has been interpreted by Weil & McGill (1989) as:

...the process whereby people, individually and in association with others, engage in direct encounter and then purposefully reflect upon, validate, transform, give personal meaning to and seek to integrate their different ways of knowing.

It is the integration of different forms of knowledge into practice which forms the core of this study. Marsick & Watkins (1990) suggest that the significance of experiential learning should not be underrated since this is a major part of the process for people to learn and acquire their working culture. The work of Mezirow (1990) draws on themes which are congruent with the research questions and aims pertinent to this thesis and with the creation of new knowledge. Mezirow (1990) explains how experiential learning is often rooted in ambiguity which can be disturbing for the learner. This often leads to analysis of the self and an examination of patterns in others' practice. The struggle which ensues can often be transformative, leading to people finding new ways of being. The diaries in this study show colourful examples of the students' internalisation of experiences and the impact this has on their confidence and competence. As Dant (1991) suggests, however, this applies not only to how knowledge is individually constructed but also how it is utilised by people.

3.4.4 Situated learning within communities of practice
Lave & Wenger (1991) emphasise the social character of knowledge production. They purport that learners need to be co-participants and acquire skills by actually engaging in the learning process rather than merely receiving factual knowledge and information. In their studies of apprenticeship in five different settings, they demonstrate the learning that occurs through being legitimately peripheral at the start and then gradually increasing in engagement and complexity. The studies revealed how the novices learned everyday activities from the experts. The principles underlying Lave and Wenger's (1991) theory are that knowledge needs to be presented in an authentic context and, for meaningful learning to occur, there needs to be collaboration and social interaction. Critics of the theory purport that Lave and Wenger (1991) neglect a crucial dynamic; that of power relations in the workplace (Boud et al, 1993). Eraut (2000) also suggests that accounts of situated learning are often simplistic and lack recognition of the multiple kinds of learning which occur in many situations.

Manion (2004) argues that a connection with others in the workplace is becoming increasingly important. Affective commitment apparently develops when there is strong group cohesiveness, built primarily on healthy working relationships. Lam (1998) asserts that the team nature of situated and embedded knowledge means it is dependent on patterns of social relations. Eraut (2002) suggests that uncodified
cultural knowledge is acquired through informal participation in social activities in the workplace. However, it is so taken-for-granted that it is common to be unaware of its influence on behaviour. Eraut (2002) states that acquisition of cultural knowledge occurs in both formal and informal settings.

3.4.5 Managing learning in unpredictable service conditions

In his study on the social theory of practices, Stephen Turner (1994) has explored the nature of habitual practice (or customs). He suggests that when habits are acquired and become common to a group, the repetition of acts leads to ingrained habit and a subsequent reduction in risk-taking. This mutual understanding of shared practices of habitual patterns becomes known as convention or culture. Routinised actions, for example, use of check-lists, procedure guidelines and learning by repetition can restrict creativity (Marsick and Watkins 1990). The use of questioning of students regarding their clinical learning is central:

Without opportunities to question practice, the learner-worker becomes stifled and work becomes repetitive and ritualised.


Fazey and Marton (2002) explain that learning and understanding often become separated in people's thinking and yet are inextricably linked. In an informative paper, the authors investigate the ways learning differs when the practice conditions for skills are systematically varied. This is because:

Skilful performance is exemplified by adaptability and the effortless accommodation of the seemingly unpredictable.

Fazey and Marton 2002 p 241.

The authors suggest that different layers of awareness exist in individuals yet it is common practice to adhere to ritual and habit rather than encouraging variation. There is a paucity of literature which describes how mentors vary situations to challenge students' experiential knowledge. Research on simulation in clinical skills laboratories reveals evidence of more systematic variation of skills and situations (Infante, 1981).

Begley (2001) also found that it was the development of autonomous practice for students that needed to be focused on and not routinised care. The primary aim of
all educationalists, whether teaching theoretical principles or practical skills, is to promote active learning. This is particularly relevant when learning from experience.

3.4.6 Teaching styles
Brigley and Robbé (2005) undertook a qualitative study to investigate teaching styles of surgeons who were educating junior doctors in surgery. Observations and semi-structured interviews were performed with 20 surgeon educators (SEs) and 22 surgical trainees (SHOs). It was found that contrasting models of supervision were practised which were not always compatible with the unpredictability of service conditions. Brigley and Robbé found that supervisors (SEs) used either a 'service orientated' or a 'humanistic' approach to teaching and supervision. Unfortunately, the authors do not appear to have accounted for the Hawthorne effect with reference to observations or gender issues more widely. Only female surgeon educators were categorised as humanistic. Excellent quotes are presented from some SHOs in the sample but there is no framework for analysis and interpretation of data. A significant conclusion from the study was that, to help SHOs make sense of their surgical experiences, a wider repertoire of teaching expertise from the experts is essential.

This has been confirmed by Lempp (2005) who used non-participant observation to assess how medical students coped with the overt and covert elements of learning in a dissection laboratory in a London medical school. Again, gender issues were not specifically addressed. However, what appeared meaningful for all students was active engagement through the young teachers passing on ‘interesting tips’ (p 323) and imparting real life experience. Quotes from these teachers would have been interesting, to examine to what extent language was used as a mediating tool. The interpersonal skills and use of honest disclosure by the teachers appeared to accelerate learning and helped some students navigate the hidden curriculum.

3.4.7 The hidden curriculum
The concept of the hidden curriculum is notoriously ambiguous and lacking an agreed definition. The hidden curriculum has broadly been defined as:

Unstated norms, values and beliefs that are transmitted to students through the underlying educational structure
Thesaurus (2000).
Rouncefield (1998) suggests the concept is used as a way of seeking out the 'unacknowledged intentions...of schooling' (p 4). Students need to learn how to survive the reality of the University and workplace. These survival strategies are often learned at the expense of the official curriculum (Rouncefield, 1998). The use of ritual and routines enable teachers to establish a 'regime' (Bowles and Gintis, 1996). If students are implicitly encouraged to be obedient, they have no control over the curriculum, their learning is not shared and knowledge becomes fragmented (James, 1968). Fragmented knowledge is potentially harmful for student midwives' practice. What role do we expect the mentors to play in revealing the hidden curriculum and the hidden non-formal elements of practice learning to their students?

Smith III and Kleinman (1989) allude to the hidden curriculum in medical training and assert that minimal preparation is given for emotion management of medical students when in contact with real patients. This excellent study highlighted coping mechanisms such as joking, bantering and use of 'gallows' humour which enabled some students to override feelings of embarrassment and disgust of the human body. Revealing raw emotions in front of fellow students around a cadaver during autopsy were felt to be acceptable, whilst contact with living patients meant hiding all feelings and performing within the 'unwritten rules' of neutrality.

Student midwives may find themselves in a range of settings, such as the operating theatre for Caesarean sections. Silen-Lipponen et al. (2004) studied how Finnish, British and American student nurses experienced learning about teamwork during their Operating Room placement period. Findings suggested that students struggled with navigating the 'unwritten' rules and conformed to 'frontstage' and 'backstage' behaviours. Traditionally, operating theatres have been renowned to be backstage areas where interactions such as joking are commonplace. Although this usually occurs when general anaesthetics have been administered, some students described the talk as disrespectful. The learning environment was often found to be unhealthy by students because of gossiping by theatre nurses (particularly if students made mistakes) and because of difficulties in understanding the language of Operating Theatre teams. The researchers used a critical incident technique, which generated interesting data but the small sample was derived from three countries, each with different contexts.
What is notable across the literature related to experiential learning is that no standard model is used to assist in mapping and coding students' development through learning modes. The following section explores Eraut's (2000) analysis of non-formal learning.

3.5.0 Non-formal learning theories

Eraut (2000) has undertaken an interesting theoretical analysis of public and personal knowledge in professional work. He maintains that implicit (or non-formal learning) is difficult to detect and even harder to vocalise. However, Eraut neglects to delineate how learners move through the modalities (implicit, reactive and deliberative).

![Figure 8. A typology of non-formal learning (from Eraut 2000, p 116)](image)

<table>
<thead>
<tr>
<th>Time of stimulus</th>
<th>Implicit Learning</th>
<th>Reactive Learning</th>
<th>Deliberative Learning</th>
</tr>
</thead>
<tbody>
<tr>
<td>Past Episode (s)</td>
<td>Implicit linkage of past memories with current experience</td>
<td>Brief near-spontaneous reflection on past episodes, communications, events, experiences</td>
<td>Review of past actions, communications, events, experiences. More systematic reflection</td>
</tr>
<tr>
<td>Current Experience</td>
<td>A selection from experience enters the memory</td>
<td>Incidental noting of facts, opinions, impressions, ideas</td>
<td>Engagement in decision-making, problem-solving, planned informal learning</td>
</tr>
<tr>
<td>Future Behaviour</td>
<td>Unconscious effects of previous experiences</td>
<td>Being prepared for emergent learning opportunities</td>
<td>Planned learning goals, Planned learning opportunities</td>
</tr>
</tbody>
</table>

Although Eraut's typology is helpful in defining elements of implicit, reactive and deliberative learning, psycho-social elements of situated learning appear to be missing. Additionally, ways to reach deliberative learning are not clearly identified.
Implicit learning has a focus whilst tacit knowing is not emphasised. This lack of definition creates a blurring of boundaries between the implicit and tacit. ‘Connected’ knowing (Belenky et al. 1986) also appears to be missing yet possibly provides a crucial link between reactive and deliberative learning categories. Assumptions appear to be made about the nature of reactive learning, so this concept will be deconstructed. Active learning could be included as a separate category.

Eraut’s typology of non-formal learning provides the key springboard for the research questions because the focus on non-formal learning is unusual in the literature reviewed to date. Non-formal learning is ‘contextual’ in character (Marsick & Watkins, 1990). The term is often used to describe learning which does not take place within a formally organised learning programme (Eraut, 2000).

Evans (2004) adds to this by suggesting:

...non-formal learning embraces unplanned learning in work situations and in domains of activity outside the formal economy, but may also include planned and explicit approaches to learning...which are not recognised within the formal education and training system.

Evans 2004, p 223.

The above definition is helpful for its reference to the dynamic interplay between types of learning and the necessity for strategic planning within mentorship structures.

Differences between non-formal and informal learning are subtle. Colley et al (2004) go as far as to say that the concept of non-formal learning is redundant in that there is an implication that it lies neatly between formal and informal learning. Analysis of diary data from student midwives will show this is clearly not the case.

As stated in the Introduction (Chapter One) it has been suggested that informal learning may occur serendipitously but accounts for more than seventy five per cent of learning in organisations (Conner 2004). Marsick and Watkins (1990) identify that the percentage of formal learning which occurs is 17 per cent, whilst informal and incidental learning make up 83 per cent. This is relevant to midwifery education in practice where so much learning spirals out of non-routine conditions and cases. In an attempt to map the ‘conceptual terrain’ of non-formal and informal learning, Colley et al (2002) conclude that boundaries are notoriously blurred and the concept
therefore continues to lack definition. Many assumptions abound, leading to reduced conceptual clarification. Marsick and Watkins (1990) suggest that, considering the crucial nature of informal and incidental learning, it is a neglected area of study. The authors add that this may be because informal learning is difficult to organise and control. This can be helped by first defining learning in organisations. This is said to be:

The way in which individuals or groups acquire, interpret, re-organise, change or assimilate a related cluster of information, skills and feelings. It is also primary to the way people construct meaning in their personal and shared organizational lives.


Colley et al (2004) suggest attributes of informality and formality are present in all learning situations. The interrelationship of these attributes can influence the effectiveness of learning and have the potential to be emancipatory or oppressive (Dearnley, 2006).

In the next section, methods for elicitation of knowledge will be addressed before examining literature related to articulation of knowledge.

### 3.6.0 ELICITATION OF KNOWLEDGE

To elicit knowledge is to 'draw out' (The Little Oxford Dictionary 1969). Accessing and un-tapping latent knowledge and tacit competencies forms the essence of mastery (Evans et al 2004).

Ways of eliciting and transferring cultural knowledge have been found to be successful through participating in social activities. However, Eraut (2004) cautions that the everyday knowledge continues to be taken-for-granted and subsequently overlooked. Accomplishing the transfer of practice knowledge effectively means that practitioners are able to desituate and re-situate new pieces of knowledge:

<table>
<thead>
<tr>
<th>Table 3. The transfer process in complex situations: From Eraut 2004, p 58)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Extraction of relevant knowledge from context</td>
</tr>
<tr>
<td>2. Understanding the new situation (often through informal social learning)</td>
</tr>
<tr>
<td>3. Recognition of the relevance of knowledge and skills</td>
</tr>
<tr>
<td>4. Transforming them to fit the new situation</td>
</tr>
<tr>
<td>5. Integrating them with other knowledge and skills</td>
</tr>
</tbody>
</table>
Recognising the relevance of practical knowledge and skills is a crucial part of the learning process in any situation with complexity. A mentor is important for assisting this recognition.

### 3.6.1 Traditional apprenticeship

Traditional models of apprenticeship in the past helped mobilise the transfer of practice knowledge through ‘on-the-job’ training (Magill-Cuerden, 2004). In this training, the activity to be learned is often physical, tangible and visible (Collins et al., 1991). An alternative model, which is more congruent with higher education (demanding higher order thinking in the health professions) is a model of instruction that incorporates less visible elements of learning and surfacing of cognitive skills. Cope et al. (2000) cite problem solving and making clinical judgments as examples.

### 3.6.2 Cognitive apprenticeship models

The central aim of this model is to use strategies for instruction which make thinking more visible (Collins et al. 1991). The rationale is that experts often employ individual strategies to solve real-life tasks but there is minimal attention paid to their reasoning processes. This crucial know-how remains inert unless apprenticeship is adjusted to enable the knowledge to be mobilised. As Lazar (1991) suggests:

> Teaching with a sense of artistry entails multiple intelligences.  

Creative teaching in this form is essential for higher order learning needed in higher education systems (Cope et al., 2000).

### 3.6.3 Modelling

Modelling is traditionally based on observation of a master by an apprentice and involves the student watching expert performance (Woolley and Jarvis 2006). The complexities of practice settings must be addressed in new ways. Each health care practitioner is dealing with huge quantities of new information on a daily basis. In her study of clinical role modelling, Davies (1993) questions how students begin to discover knowledge embedded in clinical practice. Using a grounded theory
approach, categories emerged which revealed that the knowledge discovered through observation of the clinical role models related to the artistic (knowing what and how things are done) rather than the scientific or theoretical aspect of nursing knowledge.

The main principles of social learning theory are based on observational learning and modelling (Bandura 1977). Social learning theory also consists initially of vicarious acquisition of knowledge by the individual observing a variety of models (Bandura 1977, cited by Bahn, 2001). As Lave and Wenger (1991) purport, learning and instruction are enhanced by processes that promote active participation.

Bluff (2001) recruited a purposive sample of 20 student midwives and 17 qualified midwives to explore how the role is transmitted from one generation of midwives to the next. Use of a grounded theory approach uncovered that some modelling techniques used by midwives actually inhibited development of the student midwives. Verbal reinforcement of a skill, however, was found to enhance learning. Confusion occurred when midwives were found to be 'bending the rules' and used implicit rules such as taking shortcuts. Bluff (2001) concluded from her research that prescriptive midwives did not provide appropriate role models for students as emphasis was on students 'fitting in' rather than developing individually. Melia's seminal study (1984) explored student nurses' views of socialisation in practice and found that students emulated mentors even if a 'workload' approach was necessary. Delamont and Atkinson (1991) found, using diaries and ethnographic data, that student midwives used semiosis (or signs and signals) from mentors and often resorted to 'doing the obs' as a coping strategy if decoding was not achieved. What is not acknowledged in the literature is the hidden nature of negotiating ways to 'fit in' (Menzies, 1960).

3.6.4 Scaffolding
Scaffolding is the 'support' provided by the mentor so the student can perform a task (Collins et al, 1991). This may involve a 'hands-on' approach or involve provision of prompts only. Woolley and Jarvis (2006) emphasise that support for learning is based on a student's current skill. Ideally, the scaffold is a temporary structure which is dependent on each student's pace of learning and leads to eventual autonomy and 'soloing' (Collins et al 1991). Spouse (2003) provides components of scaffolding as used in her research involving student nurses. This includes:

- Provision of a secure base
Planning the clinical activities and confederation.

Befriending
Befriending is said by Spouse (2003) to be more than a relationship as it actually confers social status. This is because part of befriending in mentorship involves willing sponsorship of a student into the community of practice. To settle into the workplace, the student needs good social support and acceptance into the work environment. The mentor's role in befriending is to be open and encouraging. The key attributes of befriending are:
1) A democratic relationship. This involves communicating on an adult to adult basis, within a relationship of mutual trust.
2) A secure base. Spouse's work illustrated how important it was for the students not to feel 'silly' or a spare part. The mentor's role in befriending is also to widen the circle of student's contacts in the clinical setting.
3) Sponsorship. As mentioned above, this provides both social and professional support. Effective sponsorship helps students feel legitimate and enhances their self-awareness.

Planning
The key aspect in planning is to identify the individual learning needs and learning agenda of the student. A fundamental part of this is assessing the student's current knowledge. As Spouse (2003) suggests, each student's experience is idiosyncratic and each personal curriculum is unique. Setting suitable targets and managing the assessment of practice are essential components. To help students implement their learning plan, Spouse (2003) emphasises the necessity for expert local knowledge of the mentor.

Properties of planning in mentorship include:
1) Providing a menu of experiences in the clinical setting
2) Assessing the student's capability
3) Identifying skills needing further development
4) Vocalising both short-term and long term learning aims and outcomes
5) Planning suitable legitimate and peripheral activities (including relevant visits).
Confederation

Confederate activities involve the student and mentor working in partnership while delivering care. In confederation, the mentor is the key actor with the student being involved, but often in a more peripheral role (Spouse 2003). An important aspect of the role is the provision of planned practice experiences which;

a) meet the student's learning needs and
b) provides access to the mentor's craft knowledge.

This appears to link with the essence of my research. In the process of reaching what Eraut (2000) terms deliberative learning, students need to find ways to tap into the midwife mentor's practice wisdom. Spouse (2003) maintains that an essential property of confederation is that the practitioner (or mentor) thinks aloud whenever appropriate during episodes of care, thereby sharing their craft knowledge.

Olsen and Biolsi (1991) suggest pragmatic methods for elicitation of expert knowledge. These are presented in the left hand column of Table 3:

<table>
<thead>
<tr>
<th>Elicitation methods</th>
<th>Representations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interview</td>
<td></td>
</tr>
<tr>
<td>Thinking out loud</td>
<td>Concepts and vocabulary</td>
</tr>
<tr>
<td>Observation</td>
<td>Associations among objects and concepts</td>
</tr>
<tr>
<td>Drawing</td>
<td>Conditional or casual associations</td>
</tr>
<tr>
<td>Card sorting</td>
<td>Strategies</td>
</tr>
</tbody>
</table>

The focus is on thinking out loud. Diary data show influence of observation and role modelling on student learning in practice. The mentor should normally articulate thoughts, instincts and any knowledge relevant to the care, for example, clinical observations (Higgs 2001). This is often difficult in episodes of care involving women and their babies but Olsen and Biolsi (1991) maintain that it is difficult to recall and explain processes used after a task has been performed. As Spouse (2003) asserts, much is dependent on the signals picked up in social interaction. As Olsen and
Biolsi (1991) suggest, appropriate responses to situations need to be retrieved and enacted by experts. What we do not know is to what extent strategies used by experts and novices differ.

3.6.5 Fading
This entails slowly removing the support (or scaffolding). Collins et al (1991) suggest fading assists increasing responsibility of the learner. Interestingly, there is minimal reference to fading as a teaching strategy in the literature. Collins et al (1991) however, use the term reciprocal teaching, where the student and teacher reverse roles. This strategy was found to help students to effectively engage with the task and to form new conceptual models.

3.6.6 Coaching
Coaching is said to differ from confederation in that students take the lead role, with their mentor supporting them. Through working more independently, coaching facilitates students to consolidate their knowledge and skills. Spouse (2003) purports that through introducing more complex activities, the student still seeks direct support from the coach but in a different form.

Properties of coaching include:
1) The student leads on care, supported by a more experienced and knowledgeable practitioner
2) Coaching supports learning and additional and complementary skills or understanding. This may occur during episodes of care or afterwards
3) Coaching takes place within a supportive and secure environment, based on mutual respect and trust
4) Coaching includes specific guidance, information or specific questioning associated with clinical practice. It is intended to support perspective development or transformation (Spouse 2003).

Lloyd and Maguire (2002) suggest that coaches can also generate breakthrough performance alongside increased enjoyment at work. There is a need for coaches to plan in purposeful conversations, which can deepen mutual understanding. Claridge and Lewis (2005) assert that, for effective coaching to occur, boundaries need to be delineated early in the relationship. This includes making clear distinctions between mentoring and coaching. As Foster-Turner (2006) suggests, the mentor-coach
interface is often blurred. Coaching is defined as being to promote short-term performance while mentoring is to support longer term goals. Due to the lengths of student placements and problems with support and supervision of mentors, these definitions are not appropriate in many health care settings.

Flaherty (1999) asserts that mutual understanding is required and is partially derived from the level of engagement of the coach and client/student. Although he suggests that coaching provides ways to contribute to someone’s competence in a ‘respectful, dignified and effective way’, the coach must know him or herself. This is because of the importance of the coaching relationship. Coaches therefore need to engage with their students fully with openness, courage and curiosity (Flaherty, 1999). The ultimate aim is for students to move towards independence from the coach so they need to have the ability to self-assess their practice. Language is therefore an essential component of coaching as it provides a new language for the learner. Flaherty (1999) asserts that the coach may reveal or conceal through the medium of language. It is therefore important to engage in 'deep listening' (Claridge and Lewis 2005, p 62) and be aware of non-verbal as well as verbal cues.

Coaching as an educational strategy is said to be similar to cognitive apprenticeship in approach as it refers to the learning of cognitive and metacognitive skills (Higgs and Titchen 2001). Knight and Banks (2003) assert that there is a need for relevance in coaching in order to scaffold performance effectively. One way to achieve this is through learning conversations, using open dialogue and encouraging student participation. Knight and Banks suggest there are problems with identifying the ‘inert’ knowledge as most professional learning is non-formal learning. There is therefore a need for authentic assessments because many outcomes are not easily pre-specified.

Diagnosing a student’s individual needs is essential within any apprenticeship relationship (Collins et al 1991). One strategy for this analysis of a student’s capabilities is through use of Vygotsky’s (1978) zone of proximal development.

3.6.7 Vygotsky’s educational theories

Lev Vygotsky (1896-1934) provided influential theories concerning cognitive development and the significance of social interaction to enable humans to think in more complex ways. It has been suggested in the literature that he was ahead of his
time in his thinking about how people learn. Unfortunately, due to a premature death from tuberculosis, a body of ideas to inform education psychology has been presented, rather than an advanced theory (Wertsch, 1985). Problems in Russia after the revolution stimulated Vygotsky to use and apply a Marxist approach and his socio-cultural theories of learning have been used to explain development of cognitive processes through social interaction and speech. It is important to emphasise that Vygotsky conceptualised learning as a social activity which takes place in two stages. The first is inter-mental and social or between two heads (Spouse 2003), involving activities such as thinking out loud and the second is intra-mental (or inside one's own head). This is where knowledge is internalised, for example through use of reflective journals.

Bruner (1985) asserts that external knowledge must be internalised and converted into a tool for conscious control. Language, for example, is acquired and mastered by listening to and communicating with adults. A process of internalisation occurs through consciously carrying out inner speech dialogues. As Wertsch (1985) purports, development is not necessarily doing something new but involves taking over the control of something you do in concert with someone else. To achieve this, Bruner (1985) suggests the use of scaffolding in which a mentor provides non-intrusive intervention. The skills and knowledge initially gained through learning being scaffolded provide an example of inter-mental learning. However, Bruner (1985) theorises that when the learner internalises the learning (involving generalising and decontextualising the learning) they have achieved intra-mental learning. This provides the rationale for using Vygotsky's socio-cultural theories of learning because, as Bruner (1985) suggests, social transaction is the fundamental vehicle of education. The audio-diaries used within my study display knowledge which is not yet contextualised. This is described as 'knowing-in-waiting' and demands mentorship. Spouse (2003) suggests this is intuitive, pre-consciously held knowledge.

Through the process of scaffolding, cognition becomes distributed and is converted to knowing-in-use. This is achieved partly through activities such as mentors assisting with learners' problem solving and making learning relevant. It is through high quality mentorship and understanding of students' potential development that this knowledge may be transformed to knowledge-in-use. Knowing-in-use is also achieved through identification of the Zone of Proximal Development. This will now
be described.

3.6.8 Defining the Zone of Proximal Development

Vygotsky's key work, which has relevance for this thesis, was the development of a model to aid children's learning and development in the classroom. This was entitled the 'zone of proximal development'. Riddle and Dabbagh (1999) describe this as:

"The distance between the actual development level as determined by independent problem solving and the level of potential as determined through problem solving under adult guidance or in collaboration with more capable peers" (Riddle and Dabbagh, 1999, p7).

Vygotsky's theory suggests that cognitive change occurs within the range of proximal development. Instruction therefore needs to be designed to reach a development level which is just above the student's current developmental level. Riddle and Dabbagh (1999) purport that the key to achieving this level is through open collaboration between the teacher and student, creating a reciprocal experience within a community of learning. If this model is adapted to adult learners in health care, it means the responsibility is placed on mentors to define this zone of proximal development for each student. Vygotsky (1978) places emphasis on the fact that human learning is context-dependent and is a socially mediated activity.

Vygotsky's work within instructional settings focused on the unity of learning and development (Newman and Holzman, 1993, p 75) and on mediation as the basis of higher psychological processes (Cole et al, 1978). What is central to the zone of proximal development is the interrelationship between the maturing and the matured. Tools are needed to facilitate a learner's 'realisation' and 'command' of their individual cognitive processes (Ivic, 2000).

The purpose of introducing Vygotsky's ideas on proximal development is that this model is crucial to successful mentorship. This theory also provides connections with Eraut's typology of non-formal learning and, in particular, the striving for deliberative learning in practice. A central tenet of Vygotsky's work was the development of a socio-cultural theory of higher mental processes. As Cole et al (1978) point out, there was previously no unified theory of psychological processes of learning.
Spouse (2003) has successfully incorporated Vygotsky’s work in her study of student nurses learning in placement. She found that, as student nurses moved into the second year of their programmes, their placements seemed more significant as their practice felt more authentic. There was still a need, however, for their mentors to be ‘signposts’ and to be their sponsors, easing them into the community of practice. As Riddle and Dabbagh (1999) suggest, it is the mutuality and open dialogue within a collaborative relationship which support the principles of Vygotsky’s theory.

3.6.9 Semiotic mediation

Vygotsky’s research centred on the psychological function of the sign in education. He indicated that the simple stimulus response should be replaced by a more complex mediated act. This involves the use of signs. Signs may be in the form of language, writing or number systems and, if mediated appropriately, can maximise the potential of individuals. Vygotsky argued that it is by mastering semiotically mediated processes in social learning situations that individual learning is enhanced (Hakuta, web). Lima (2004) asserts that semiotic mediation encompasses cognitive and affective factors in learning relationships, which can modify both motivation and behaviour. In a myriad of midwifery situations, signs and symbols may be non-verbal. How knowledge is mediated using the range of signs and tools will enable examination of the culture and how meanings within the culture are transmitted. The problem of internalisation of symbolic psychological tools and social relations formed the basis of many of Vygotsky’s experiments. In examining processes of instruction, Vygotsky claimed that intra-psychological functioning grew out of inter-psychological functioning. This is based on a student’s level of ‘readiness’. Instruction of this nature therefore plays an important role in development.

Ivic (2000) highlights the discovery of Vygotsky’s metacognitive dimension of development. How knowledge is assimilated and students are guided, smoothly making the transition from one concept to another, has significance for this research. Students need to acknowledge their own knowledge-acquisition processes and exert ‘deliberative’ control over them (Ivic 2000). The fact that Vygotsky’s theory of metacognitive development means that students aim towards thought processes becoming conscious and deliberate suggests the theory can be usefully adapted to adult learning.
Spouse (2001) purports that the socially situated support that students receive is necessary but should not detract from the knowledge and understanding essential for effective practice. Her view is that craft knowledge is communicated primarily through the collaborative working between the mentor (practitioner) and student. Spouse’s work has been influential to my thinking in that the student nurses in her study were found to rely on personal knowledge to develop and sustain relationships in the workplace. Her research concluded that students were concerned with seven categories of professional knowledge development. These included: developing craft knowledge, managing feelings and emotions and developing the essence of nursing. Her key finding was that effective mentorship was a fundamental influence on the learning process. The research findings are central to this thesis in that the close supervision of students by their mentors was found to be pivotal to the development of craft knowledge and the essence of practice through exposure to experiential learning.

3.7 ARTICULATING EXPERT KNOWLEDGE

Problems exist with formally communicating one’s knowledge as it is so deeply rooted in individual experience (Higgs and Titchen (2001). They purport that this subtle and layered knowing acquired through experience, corresponds to pre-scientific knowledge which is often mainly hidden but underlies all daily practice.

Eraut (2000) reported on a study in which employees were interviewed in the workplace. It was discovered that people’s prior experiences of articulating what they knew strongly influenced their ‘ability to tell’. This finding has implications for encouraging student midwives to vocalise their knowledge.

More explicit language was apparently used by employees to talk about their knowledge if:

- A mediating object, such as a diagram, was used
- A ‘climate of regular mutual consultation’ which encouraged descriptions of what the person actually knew
- A mentoring relationship which encouraged explanations, including articulation of the norms within the culture
- Informal discussions
- Honest exchange of values and experiences

Eraut, 2000, p 119.
All the above involve articulation and some explanation to mediate information and promote learning. The following are strategies to encourage articulation of practice and dissemination of practice knowledge:

### 3.7.1 A ladder of inference

Marsick and Watkins (1990) describe the usefulness of creating a 'ladder of inference' to help interpret practice language. The tool can provide a focus for teachers and learners to inquire about each other's processes of reasoning. The value is that one's espoused theories and theories-in-use can begin to be voiced, so creating a language of shared meaning. As Lowe (2004) suggests, however, this depends on levels of disclosure. Accessing others' experiences may be accelerated by the ladder of inference described by Marsick and Watkins (1990). An example from a teacher's ladder would be a chart with two columns:

<table>
<thead>
<tr>
<th>What the teacher said</th>
<th>Inferred meanings</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

It has been suggested that a ladder of inference, such as this, could help reveal consistencies and inconsistencies in people's reasoning. This has potential to be modified and adapted to incorporate a mentors' column and a student midwives' column.

### 3.7.2 Knowledge maps

To help articulate the tacit components of knowledge, cognitive maps have been used by Agyris (1976). These help to identify governing values, leading to more reflective styles of learning.

Parboteeah (2001) introduced knowledge maps as a mediating tool (or artifact) into pre-registration nursing courses as part of a doctoral study. The aim was to use the maps as a tool to offer information to students (and mentors) regarding what knowledge is relevant to practice. This study stemmed from Eraut's (1995) empirical research in which it was found that there was minimal mediation of theory in practice.
settings. One conclusion was that new tools were needed to assist with articulation of practice. Parboteeah (2001) found evidence that workplace learning was peripheral rather than central to the actual delivery of care. Key findings were that:

- Students were apparently enthusiastic about using knowledge maps—particularly if the maps were introduced during the later stages of their preparation programme.
- Students sometimes identified areas of knowledge and practice they were not previously aware of, showing the potential meta-cognitive effects of using knowledge maps.

Mentors and other qualified staff reported some confusion regarding knowledge maps as tools but reported that they triggered thinking about the theory underpinning practice. Knowledge was found to be generally more ‘retrievable’ for practical use.

One limitation of Parboteeah’s study is that scientific knowledge only was tested using this tool. Although this enhanced codification of knowledge, gaps remain in our understanding of possibilities for tools such as this to enhance non-formal learning.

3.7.3 Concept clinics
Beth Rodgers (1996) asserts that a well-defined concept can enable ‘cognitive recall’ and help explain our practice. Concepts may manifest themselves linguistically and can contribute to the continuing development of knowledge.

Rodgers (1996) suggests:

> Concepts play an important role in the development of knowledge and even in the conduct of everyday existence.


Nonaka & Tacheuchi (1995) describe the use of ‘concept clinics’ to aid intellectual progression in organisations and businesses. Landers (2000) asserts that nurse theorists often use abstractions of clinical situations but use different terms and assign varying meaning to terms, thus confusing issues and increasing the theory-practice divide. The debate continues as to the defining characteristics of expert practice.

3.7.4 Professional Stories
Skott (2003) undertook an ethnographic study aimed at describing everyday work on an oncology ward. Nursing experiences and ethical dilemmas were often shared
through narratives and Skott (2003) advocates for the making of legitimate space in practice for learning conversations. It is through this narrative communication that the appreciation of different perspectives can occur:

To capture the meaning of a situation and be able to recognize the same meaningful transaction in another situation where the characteristics may be quite different demands personal understanding.  

Skott, 2003, p 369.

Sandelowski (1991) refers to this understanding as narrative knowing. Midwives have traditionally had a rich oral tradition (Leap and Hunter, 1993) and Leamon (2004) suggests that midwives’ stories can assist students and others to consider other ways of practice that may require unlearning and even change. Lindesmith and McWeeny (1994) advise that professional storytelling is planned to enhance attentiveness of listeners and maximise the sharing of expertise.

3.7.5 Metaphor

Froggatt (1998) has commented on how little metaphor is used in the nursing literature. Metaphor has been used even less in qualitative midwifery studies and yet the potential for discovering both midwives’ and women’s thought processes and feelings through metaphor have yet to be fully realised.

A metaphor is using a name for something that is not literally applicable, to convey an idiomatic subtext.  


Froggatt's (1998) ethnographic study of nurses in hospice settings demonstrates beautifully how the metaphors we use in everyday life can reflect reality and therefore bring depth of understanding to research and have relevance for meaningful interpretive work. A narrative discourse analysis approach was taken to explore the variety of practical strategies the recruited nurses adopted to manage the emotional aspects of their work. Some described this area of their work as 'draining' and portrayed their response to other people's emotion as 'gaining a load' or a 'burden'. The author states:

Nurses adopted several strategies with respect to emotional control in order to try and prevent themselves becoming either over-burdened or drained.  

To keep their emotion under control, nurses talked about mentally distancing themselves by 'standing back'. As Eraut (2000) asserts, this is an example of reactive learning and, although tacit behaviour, can impact negatively on provision of care. Froggatt's study (1998) provides useful examples for further work in this area. It is possible that, through techniques such as situated student feedback to mentors, complemented by guided metaphor, key aspects of the hidden curriculum could be unlocked. It is only through examination of the less organised aspects of the curriculum that the character of the know-how embedded in action can be unmasked.

3.7.6 Feedback
It is an interesting point that, in searching the literature, little exists on the skill of provision of comprehensive feedback to students and yet this has potential to assist students to manage their emotions while on placement. There are studies examining the feedback process on the theoretical component of programmes (Mutch 2003) but a dearth of specific literature on provision of feedback in clinical settings. Pope et al (2003) examined how often feedback was given during non-participant observation of mentors and student midwives working together. Interestingly, feedback was verbal and often unrecorded. The paucity of literature and evidence based studies in this area points to the chasm which exists (Gibbs, 2004). Much emphasis has perhaps been put on formal assessment processes and statements of competence. The research data (in Chapter 4) will show how constructive (situated) feedback can lead to a depth of understanding and reduction of ambiguity in practice for student midwives.

Sharing tacit knowledge
In her study of continuing medical education, Lowe (2004) examined the sharing of competence and processes in place to convert tacit and explicit knowledge. The following diagram illustrates a cycle of knowledge management which focuses on the sharing of tacit knowledge:
The foundation of the above paradigm for medical education is based on finding ways to:

1. Create tacit knowledge
2. Share tacit knowledge by making it explicit
3. Share and store explicit knowledge so that;
4. It can be made tacit again and be used more effectively

Lowe (2004) used the above concept to describe how mentoring programmes can assist students to harness their personal knowledge and help them make meaning of their environment. To simplify this concept the example of providing directions to someone without using a map is used. Tacitly knowing the details such as where a large bend is located means that, through explaining, tacit knowledge is converted to explicit knowledge. Additionally, transformation of explicit knowledge into tacit knowledge can occur for students if mentors find ways to articulate their personal stories and explain their know-how (Lowe, 2004).

3.7.7 Collective tacit knowledge

Evans (2004) asserts that, by nature, all non-formal learning has strong tacit dimensions:
While the explicit is easily codified and conveyed to others, the tacit is experiential, subjective and personal, and more substantially difficult to convey.

Evans 2004 p 223.

What is of interest, for the purposes of this doctoral research, is how this tacit knowledge can be recognised and usefully passed on. Catherine Pope et al (2003) investigated the passing on of tacit knowledge and the nature of expertise in anaesthesia. Samples of observational data were presented in the text and provide excellent examples of knowledge transfer between anaesthetists working in partnership in operating theatres. One result was the need for systematic observation to be used during the clinical apprenticeship period. The researchers also identified the need for skilled anaesthetists to relate their experiential practice anecdotes and to spend more time talking about their practice with learners. As with much of the nursing and midwifery literature, there was found to be a lack of space in the anaesthetists' training programmes for trainees to reflect in a systematic way to help consolidate their learning experiences. The researchers concluded by suggesting that expertise in anaesthesia cannot rely on an explicit knowledge base only:

The endurance of the clinical apprenticeship model of learning and the passing on of tacit knowledge via exposure and informal routes (such as the anecdote) attest to the importance of this other necessary form of knowledge.


Evans and Kersh (2004) assert that tacit knowledge continues to be poorly understood within the workplace, despite the fact that tacit skills and knowledge are often recognised. It is the implicit knowledge and skills which form the key elements of mastery. Interestingly, students exposed to workplace learning, such as student midwives, are rarely alluded to in the literature on tacit knowledge. It is possible that expert knowledge only has been investigated. The research by Evans and Kersh (2004) indicates that it is the deployment of tacit skills in the workplace which facilitates further learning outcomes.

Cook and Brown (1999) use an excellent example of world class flute-makers to illustrate how acquisition of tacit knowledge by an apprentice is not only transferred from the master to the apprentice but is actually 'generated', leading to enhanced competency. The flute-makers were renowned for assessing quality of their product
through use of judgement on each flute's touch and look. If a flute did not 'feel right', it was described as 'clunky' so negotiation occurred with fellow flute-makers to improve the instrument. Part of recognition of 'clunky' came from daily handling of the pieces and from working collectively. What Cook and Brown (1999) show is that it is not just knowledge which is generated but 'ways of knowing'.

3.7.8 Codifying tacit knowledge

Evans et al (2004) have used a Dynamic Concept Analysis method to help examine tacit forms of personal competences in the workplace. Through using learning biographies of adults training or re-entering the workplace, suggestions were made to help recognise and harness tacit skills. As found in other studies, the recognition of tacit knowledge and skills was often problematic and therefore difficult to codify. Evans et al (2004) assert that much know-how may be acquired through practice but also sometimes through painful experience. These untapped tacit competences have been found to be both structural and referential (i.e. referring to context). Analysis of learning biographies through use of conceptual modelling illuminated the interrelationships between tacit skills recognition and learning processes. Tacit skills recognition was triggered through teachers and students working together to identify students' hidden abilities and talking through significant learning episodes. This relational system of learning was found to accelerate the learning process through making the tacit more 'visible' (Evans et al 2004, p 59).

Wyatt (2001) proposes that techniques need to be developed to manage tacit knowledge in healthcare to match similar strategies used to manage codified knowledge. Writing for a primarily medical audience, the author purports that it is the 'typical cases' which help to codify explicit knowledge and support routine problem solving. The research data presented in Chapter 5 will show how much learning can occur through seemingly mundane practical activities, for example, assisting with breastfeeding and managing the third stage of labour.

There has been a surge of interest in recent years in understanding how knowledge is created, enabled and distributed within organisations. This has centred largely on knowledge creation in a globalised and competitive market. The following diagram illustrates some differences found by Nonaka and Takeuchi (1995) in Japanese and Western organisations:
Table 6. Comparison of Japanese-style vs Western style organizational knowledge creation. From Nonaka and Takeuchi, 1995 p 100.

<table>
<thead>
<tr>
<th>Japanese Organization</th>
<th>Western Organization</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Group based</td>
<td>• Individual-based</td>
</tr>
<tr>
<td>• Tacit knowledge oriented</td>
<td>• Explicit knowledge-oriented</td>
</tr>
<tr>
<td>• Strong on socialization and internalization</td>
<td>• Strong on externalization and combination</td>
</tr>
<tr>
<td>• Emphasis on experience</td>
<td>• Emphasis on analysis</td>
</tr>
<tr>
<td>• Dangers of 'group think'</td>
<td>• Danger of 'paralysis by analysis'</td>
</tr>
<tr>
<td>• Ambiguous organizational intention</td>
<td>• Clear organizational intention</td>
</tr>
<tr>
<td>• Group autonomy</td>
<td>• Individual autonomy</td>
</tr>
<tr>
<td>• Creative chaos through overlapping tasks</td>
<td>• Creative chaos through individual differences</td>
</tr>
<tr>
<td>• Frequent fluctuation from top management</td>
<td>• Less fluctuation from top management</td>
</tr>
<tr>
<td>• Redundancy of information</td>
<td>• Less redundancy of information</td>
</tr>
</tbody>
</table>

Tacit knowledge and explicit knowledge are not necessarily separate but have potential to be ‘mutually complementary entities’ (Nonaka and Takeuchi 1995, p 61). The authors have explored mechanisms for individual knowledge to become articulated and ‘amplified’ through an organisation. The first step towards this is to define differences between knowledge and information. Whilst information is defined as a ‘flow of messages’, the essential attribute of knowledge in western epistemology is ‘truthfulness’ (Nonaka and Takeuchi 1995, p 58). The changing economics of Japanese society have demanded a shift to the new knowledge-driven economy. One role has been developed in Japan specifically to promote inter-organisational knowledge exchange. Lincoln and Ahmadjian (2000) describe the ‘shukko’ who is an employee purposely transferred to another organisation. The aim of ‘shukko’ is to transfer tacit knowledge between firms through socialisation and creation of ‘inter-
firm knowledge diffusion’. As Lincoln and Ahmadjian (2000) assert, however, the
hosting firm often vents resentment at a person who arrives through ‘shukko’. The
acknowledgement of this difference is central to how the knowledge creation process
is managed in and across institutions such as Universities and NHS Trusts.

3.7.9 Managing tacit knowledge in institutions
Learning organisations are being formed in a range of businesses. The National
Health Service is starting to adopt collaboratives, as used successfully in the private
sector, to attempt to close the gap between available knowledge and best practice.
The modernisation agenda, set out as part of the NHS Plan (2000) aimed to find
ways to ‘liberate knowledge’ and ‘harvest good practice’ across organisations within
the NHS (Bate and Robert, 2002). The fundamental principle underlying knowledge
management is that individual knowledge is largely unknown to others and is
subsequently wasted (Quintas 2002, cited by Bate and Robert, 2002). Problems
persist, however, with the transfer of knowledge, particularly tacit knowledge, as
described by Polanyi (1962).

It has been stated that:

..tacit knowledge is 'sticky' and often travels poorly between organizations

This stickiness may be caused by what Baumard (1999) refers to as the
unarticulated, often idiosyncratic know-how, which he terms the ‘black box’ in human
cognition. The process of ‘unlearning’ as well as learning needs to be acknowledged.
This necessarily involves managers having awareness of their biases and
preconceptions. In the case of health care courses being delivered through Higher
Education Institutions, it is the teachers and mentors who need to have awareness of
their unspoken, tacit expertise:

The very nature of expertise lies in the reduced effort of ‘searching’ required
of an expert to solve a problem.
Newell and Simon 1972, p 92

Bate and Robert (2002) assert that it is the blending of tacit and explicit knowledge
which is fundamental to effective knowledge creation. Authors on this subject
emphasise the need to convert and codify tacit knowledge (Bate & Robert 2002, Lam
2000, Eraut 2000). With current definitions of ‘expert’ knowledge being so woolly, the
facilitation of knowledge generation and transfer within the current hierarchical system remains problematic.

Van Krogh et al. (2000) suggest that an important but often overlooked aspect of knowledge enabling involves facilitating relationships and conversations as well as facilitating the sharing of local knowledge across an organisation. As Baumard (1999) asserts, this means that individuals must find ways to interact with their environment so that the tacit dimension of knowledge can be cultivated. It is this sphere of knowledge creation and management which forms the core of this thesis.

Dissemination of individual tacit knowledge has also been found to be successful through informal networking processes, with professional concepts arising out of socialising in the workplace (De Geus, 1997). Butler suggests that, through construction and sharing of similar events, commonalities across a group may develop. This was certainly found to be the case in research by Finnerty and Pope (2004) where action learning sets held during a mentor preparation programme assisted neophyte mentors in working beyond the jargon and habitual language used to describe practice. A recommendation from the project was that modified action learning sets continued following completion of the mentor preparation programme. Learning sets provided a tool for articulating the tacit components of mentoring practice and knowledge from the preparation programme.

What Van Krogh et al. (2000) propose, which is potentially extremely productive in many health organizations, is a way to ‘fuel’ the knowledge creation by utilising the creative powers of the working individuals themselves. This ‘untapping’ of the tacit knowledge (Lam 1998) is potentially exciting but depends on how conversations and discussions are managed. It has been suggested that conversation skills are a lost art and yet:

Good conversations are the cradle of social knowledge in any organization
Van Krogh et al, 2000 p 125.

However, in order for knowledge to be used effectively, what is stressed is that when new insights are generated through group discussions, everyone owns them. This creates some fragility within the knowledge-creation process, from the risk involved expressing one’s true beliefs publicly. Van Krogh et al. (2000) remind us of the
Socratic ingredients: Openness, patience, the ability to listen and experimenting with new words and concepts. Transferring our personal knowledge into the public arena takes courage. This means that conversations need to be sensitively handled. In some ways, this has started to happen through research focus groups and, more recently, action learning sets (Weinstein 1995).

Drawing on Nonaka and Takeuchi's (1995) research, Rogers (2002), in a study exploring the processes underlying a randomised controlled trial on the third stage of labour, found the middle managers (or mentors to junior staff) were the key to helping staff make sense of their tacit knowledge. This is an important finding which has relevance to my own study concerning whether mentors can help 'untap' tacit knowledge, thereby legitimising the non-formal learning by their students.

3.8 Expansive learning environments

Parlett & Hamilton (1988) describe the learning milieu as 'the social-psychological and material environment in which students and teachers work together' (p 62). Many variables interact and 'suffuse' the teaching and learning that occur there. The diversity and complexity of the learning milieu must be acknowledged, for example, the politics and management structures. The individual teacher's characteristics, including teaching style, experience and private goals and inclusion of student perspectives and orientations must also be considered.

Unwin (2004) cites the workplace as a major site for learning but an expansive approach needs to be fostered. This must take into account the culture in each workplace. As found by Spouse and Redfern (2000), challenges may occur arising from a 'blame culture' or a 'watch your back' culture. This is in direct opposition to a learning and development culture based on feedback, regular review and a lifelong learning philosophy across all grades of staff. Unwin (2004) stresses that the arena needs to harness the competences and potential of each person. She suggests this entails fostering collaborative learning using a progressive approach to apprenticeship. Constraints imposed on the education system need to be addressed (Mooney and Nolan 2006) so that transformation is enabled through liberation as opposed to oppression. As Lam (1998) asserts, the socially embedded nature of knowledge-in-use involves interactive problem solving and un-tapping of experts' tacit knowledge stores.
3.9 Summary
The review of the literature has examined key texts which have included the study of professional practice knowledge. Part One examined the genesis and nature of knowledge. What is social knowledge and what are ‘women’s ways of knowing? The hidden components of practice knowledge have been explored, using Polanyi’s (1962, 1967) theories of tacit knowing.

Part Two focused on how the non-formal aspects of craft knowledge in midwifery practice are mediated. How are clinical learning environments for health care students described in empirical studies? This provides a basis for examining how students move from ‘reactive’ to ‘deliberative’ modes of learning (Eraut 2000). Spouse’s research (2003) examined how student nurses moved from ‘knowing-in-waiting to ‘knowing-in-use’ within an apprenticeship model. Vygotskian theories (1978), such as the ‘zone of proximal development’ have been critiqued. Elicitation and articulation of expert knowledge, including institutional challenges inherent in achieving this, have been identified.

Gaps identified in the literature are:
- A dearth of studies specifically exploring non-formal learning in midwifery
- A paucity of literature related to craft knowledge in midwifery practice
- Minimal attention to midwives’ tacit knowledge and latent talent
- A dearth of literature which examines the use of language as a tool for imparting knowledge and linguistic features in learners’ accounts of day to day, taken-for-granted practice.

Un-tapping the hidden knowledge therefore demands the use of methods which are not mainstream (Jones, 2003). The analytic techniques for accessing the rich data will be described in the following chapter. In Chapter Four, justification of the methods used is provided, based on the reviewed literature and nature of the research objectives.
CHAPTER FOUR

METHODS AND DESIGN OF THE RESEARCH

Diaries can be used to access those facets of social life which members of social groups take for granted and are therefore not easily articulated or accessed through research methods such as interviews...Diaries can be used to access such tacit knowledge.

Alaszewski 2006, p 37.

4.0 Introduction
The review of the literature in the previous chapter has shown there are significant gaps in our knowledge about situated learning and how craft knowledge can be made visible. Learning diaries were selected for in-depth analysis, as this method is sensitive to the personal nature of practice learning. The use of audio-taped diaries assisted in providing access to detailed facets of complex, individual processes of acquiring craft knowledge. Diaries formed a record of learning and support over ten consecutive days during one midwifery placement, enabling a more 'intimate' study (Alaszewski 2006) and privileged access to each student’s realities of experiential learning. The diary guide was piloted and the final version used a broad structure with two central themes; the overall practice learning experience and support in practice on that day (see Appendix One). This meant that respondents were minimally constrained in their responses, so providing valuable detail which can be lost through methods that use fixed choice responses (Bowling, 1990).

Discourse Analysis positions people through language-in-use (Adams, 2001) and this approach was therefore considered to be the most appropriate method of inquiry to interrogate the data. Long extracts often provided both contextual detail and students’ interpretations of learning to become a midwife. Use of a narrative analysis framework helped provide robustness (Reissman, 1993) and transparency. Re-transcribing a sample of audio-diaries using the Jefferson method (1984) illuminated utterances that provide new information about individual experiences of non-formal and relational learning. This transcription method will be explained in more detail later in the chapter (see Appendix 3).
The research study was designed to reflect congruence between the ontological, epistemological and methodological frameworks selected to address the research aims and objectives. Discourse analysis as an analytic technique has been adapted to be compatible with the philosophical frameworks described in Chapter Three. Live audio-diary data captured through the utterances of the student's voice portray the organic, 'live' nature of the forms of knowledge being described. Norman Denzin (1995) refers to the audio-diary as an 'acoustic mirror' and the systematic analytical processes used will show the potential for the diary to be used more widely as a reflexive and flexible method with a range of health care students.

A qualitative paradigm was selected. The benefits of using a qualitative approach are that:

- It is relatively flexible
- It studies what people are doing in their natural context
- It is well placed to study processes as well as outcomes
- It studies meanings as well as causes


The chapter will be organised by first presenting a description of the methods used. This will be followed by examining the use of diaries and the theory of narrative analysis. I will explain reasons for isolating diaries as the main research tool including reasons for selection of student narratives and exclusion of mentors' data. How the material has been interpreted, using Discourse Analysis within a narrative analysis framework will then be detailed.

4.1 Description of the methods

4.1.1 Diaries

In the national study investigating learning in midwifery practice by Pope et al (2003), each participant was invited to record events specific to teaching and learning at the end of every working day for approximately ten days (or shifts) in their audio-diary. By requesting eight to ten entries (preferably concurrent shifts or working days) it was anticipated that the essence of the teaching and learning experience would be captured without burning out of the participant or saturation of potentially rich information. A semi-structured written guide was issued to each participant (see Appendix 1) but the length
of entries was unrestricted. Whilst this meant that some written diaries were very brief, some student midwives who chose to record their practice learning and support on audio-tape submitted two or three ninety minute tapes. Each participant was issued with a Dictaphone and a blank audio-tape. For those who selected to use written diaries, I tested out the use of spiral bound A5 size lined booklets from a well-known major stationery retailer in which to record their learning experiences.

4.1.2 Piloting the diary
The diary had been piloted at two separate NHS Trusts prior to commencement of the national research study by Pope et al (2003). The students volunteered to participate in the in-depth component of the research project following focus groups with their peers. Verbal and written information was issued so that all participants were fully aware of the commitment required to participate in individual diary completion for ten days, two to three non-participant observation visits (to enable observation of teaching and learning instances for each mentor/student dyad by the research midwife) and individual interviews at the beginning and end of a placement. Access was achieved through communications with Heads of Midwifery. Management permission and ethical approval had been obtained.

Eight pairs of student midwives and named mentors completed diaries for the pilot study. All participants were carefully instructed as to how to use the Dictaphone and advised to complete diaries as soon as possible after a shift or working day. I visited the participants twice during the eight week pilot study, to check the diaries were being completed regularly and to provide encouragement and support if required. Two student midwives kindly submitted their audio-diaries in their own time as they had completed a block of night duty. I was instrumental in designing the structure of the diary, based on the pilot data and processes. Literature pertaining to the diary method had been collated. As much previous research with student midwives has centred on the initial part of their programme (Davies 1993), my aim was to include narratives from students studying on a range of midwifery programmes, at different stages of their programme and in a variety of settings, for example, community clinics, women's homes, hospital wards and delivery suite. It is anticipated that these data will generate findings which capture positive and less positive aspects of practice learning, in order to contribute to knowledge in this field.
Recall error was minimised by encouraging participants to record their entries as soon as possible after a shift or working day. Much of the affective detail would have been invisible and unrecorded without this. Most of these incidents would not have been included in the students' learning portfolios or in their assessment documents and reflective papers, yet seemed to form substantial and often significant learning for the participants.

There was a high level of respondent co-operation leading to an extensive data set. In relation to other similar means of gathering data, for example, self-report questionnaires, there was a pervasive richness which would not have been captured without hearing the voice of each student. For example, there were moments of humour, exhaustion and repetition of certain events. Emotional responses, for example, anger or satisfaction with their performance on that day provided significant data regarding learning challenges in all maternity care environments. As Ritchie and Lewis (2003) cite, interpretivism of data from a method such as diaries can inform our holistic understanding of individuals. This is because use of distinctive language within the discourses conveys the performances and helps make sense of social action. It is this aspect which provides potential to contribute to new knowledge in this area.

4.1.3 Clarifying distinctions between my individual research and the national research approach

The value of using an alternative analytic approach to the diaries was:

- Much of the diary data had been under-analysed. Additionally, the content-analysis process used in the national research study tended to by-pass how utterances were said. The uniqueness of the discourses was subsequently missing, as was reflexivity and emotionality behind the human voice.
- The richness in linguistic expressions of clinical learning deserved further exploration and illumination.
- The voice is often suppressed with other research methods yet provided some revealing insights and vocabularies to represent student midwives' personal knowing. The diary became a vehicle for conveyance of language-in-use.
- The data would have been archived yet comprised an extensive data set. For example, some students' diaries were over 20,000 words when transcribed.
• Diaries provided a flexible data source, which minimised researcher intrusion (Alaszewski, 2006).

• Triangulation with other data sources has already been achieved (Pope et al 2003). The audio-diaries often captured vivid descriptions, using natural language which included repetition, sarcasm, laughter and other features which are frequently discarded as extraneous detail using mainstream research methods, yet form a unique record of more mundane daily activities and taken-for-granted responses to practices in contemporary service contexts.

4.2.0 Managing the data: Use of a discourse analytic technique

Diaries were transcribed by researchers and administrators soon after data collection for the national midwifery education project. In the process of formally presenting the data, much of the raw material became ‘cleaned up’. This necessitated audio-diaries being totally re-transcribed for my individual research.

While formulating an initial sampling frame in 2003, I recognised from detailed research notes that one student frequently alluded to first experiences of events and used interesting language to describe learning in a busy delivery suite and operating theatre but this diary had only been partially transcribed. I listened to the two tapes and, as a consequence of re-transcribing the whole audio-diary, this student (Student A) became a central part of the thesis. The vivid descriptions of non-formal learning provided information about the reality of learning the craft of midwifery in complex placements. The narrative formed the basis of my interpretive framework and, crucially, presented strong links with a myriad issues related to experiential, situated learning in the literature. The student’s tapes were information-rich, both linguistically and in descriptions of supervision, teaching and assessment strategies apparently used by the named mentor.

The re-transcription process was extremely lengthy. In the initial stage I listened to all tapes with the transcripts. Use of a narrative analysis framework helped to identify and systematically log episodes of learning. These were analysed using Eraut’s (2000) typology of non-formal learning as an underpinning framework. Coding using the Jefferson method (1984) entailed listening to each extract at least five times. The electronic insertion of symbols took longer than anticipated. A bonus was that some subtle metaphors surfaced, which had been inadvertently glossed over. These are
presented in full in Chapter Six, as part of the discussion on linguistic expressions used by students in the sample. Examples of metaphors used by student midwives in practice include:

"I felt like a fly on the wall..." (Student A)
"It was a baptism of fire" (Student M)

4.2.1 Selecting the sample
The sample is a purposive sub-sample of fourteen student midwives’ audio-diaries from the whole group comprising 19 pairs of midwife mentors and their students, who were recruited for the national midwifery education study. The recruitment process for the national study involved following up students who volunteered to participate. Their involvement in the study depended on: Which programme they were on; which Trust they were allocated to for their placement and whether their mentors wished to participate. The pairs were then given detailed information about the project, literature and a consent form (See Appendix 4). The diaries had already been completed for the national study and so a sampling matrix was developed to incorporate the new theoretical frameworks and analytical approach for the purposes of my study.

With qualitative sampling strategies, the parameters of the sample should match the research purpose (Higginbottom, 2004) and not be led by the need for creation of generalisable findings (Wood and Kroger, 2001). Specific sampling strategies have been found to vary but should ideally reflect the purposes and questions guiding the study (Punch, 1998). My research set out to address how practice knowledge was perceived by students to be generated through the mentor relationship and what strategies mentors apparently used to support non-formal learning in practice. The sample size was subsequently determined by the desire to gain in-depth and information-rich data concerning non-formal learning episodes. The sample size is determined by the research question but Potter and Wetherell (1987) stress that the success of a study using discourse analysis is not at all dependent on sample size. This is because a large number of linguistic patterns (and phenomena) can emerge from a few people.

Wood & Kroger (2001) identify that the key interest in Discourse Analysis is in the language and not the language users themselves. The sample therefore consists of
units of analysis as opposed to characteristics of participants. Purposive sampling is also known as criterion-based (Ritchie & Lewis, 2003). The sampling matrix for the study has been constructed to reflect the range of students studying on the range of midwifery preparation programmes offered at Universities in England.

Silverman (2001) advocates critical thinking regarding the parameters of the population of interest for the study and use of a typology. This ensures the sample is theoretically grounded (Eraut 2000). The revised sampling frame for this research confirmed there was a spread of preparation programmes, a mix of practice placements and a variety of student stages and profiles within preparation for degrees and diplomas. The following table also displays a broad spectrum of mentor experience:
Table 7. Demographic details of the participants:

<table>
<thead>
<tr>
<th>Student</th>
<th>Programme</th>
<th>Previous career</th>
<th>Placement</th>
<th>Diary</th>
<th>Mentor-brief biography</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student A</td>
<td>Diploma-3 year Beg year 3</td>
<td>Public services</td>
<td>Delivery suite and theatre Large, inner-city unit</td>
<td>Audio-diary Two tapes Submitted Approx. 20,000 words</td>
<td>Qualified more than 10 years. Full time ENB 997 Core delivery suite</td>
</tr>
<tr>
<td>Student B</td>
<td>Diploma-3 year Beg year 3</td>
<td>Public services (hospital)</td>
<td>Postnatal ward Large, urban unit</td>
<td>Audio-diary (partly written) 3,504 words</td>
<td>Qualified for under 5 years. Direct entry ENB 997 Full time</td>
</tr>
<tr>
<td>Student C</td>
<td>Degree 3 year 2nd year</td>
<td>Public services (including hospital)</td>
<td>Delivery suite Medium, inner city unit</td>
<td>Audio-diary 4, 776 words</td>
<td>Qualified more than 10 years. Full time ENB 997</td>
</tr>
<tr>
<td>Student D</td>
<td>Diploma 3 year 2nd year</td>
<td>Retail</td>
<td>Delivery suite. Medium, inner city</td>
<td>Audio-diary Approx. 8,000 words</td>
<td>Qualified more than 15 years. Full time ENB 997</td>
</tr>
<tr>
<td>Student E</td>
<td>Diploma 3 year 2nd year</td>
<td>Public services (including health)</td>
<td>Delivery suite Medium, urban unit</td>
<td>Audio-diary Approx. 4,000 words</td>
<td>Qualified more than 3 years. Direct entry</td>
</tr>
<tr>
<td>Student F</td>
<td>Degree 3 year 2nd year</td>
<td>Public services</td>
<td>Large, inner city unit</td>
<td>Audio-diary 11,950 words</td>
<td>Qualified more than 20 years. Degree ENB 997</td>
</tr>
<tr>
<td>Student G</td>
<td>Diploma 3 year Term 8 3rd Year</td>
<td>No details</td>
<td>Community</td>
<td>Audio-diary Approx. 3,500 words</td>
<td>Qualified more than 30 years. Full time ENB 997</td>
</tr>
<tr>
<td>Student H</td>
<td>Degree 3 year 2nd year</td>
<td>Public services (Health)</td>
<td>Community</td>
<td>Audio-diary 5,516 words</td>
<td>Qualified more than 10 years. Degree ENB 997</td>
</tr>
<tr>
<td>Student J</td>
<td>Degree 3 year 2nd year</td>
<td>Retail</td>
<td>Community (Medium urban unit)</td>
<td>Audio-diary 3,692 words</td>
<td>Qualified more than 3 years. Degree Full time ENB 998</td>
</tr>
<tr>
<td>Student K</td>
<td>Diploma 3 year 3rd year</td>
<td>Public services</td>
<td>Community Integrated teams</td>
<td>Audio-diary Approx. 5,000 words</td>
<td>Qualified more than 5 years. Full time ENB 997</td>
</tr>
<tr>
<td>Student L</td>
<td>Degree 78 weeks (18 months-shortened)</td>
<td>Nurse training</td>
<td>Delivery suite</td>
<td>Audio-diary Approx. 3,200 words</td>
<td>Qualified more than 5 years. Degree Full time ENB 997</td>
</tr>
<tr>
<td>Student M</td>
<td>Diploma 3rd year</td>
<td>Public services</td>
<td>Delivery suite</td>
<td>Audio-diary Approx. 10,000 words</td>
<td>Qualified less than 5 years ENB 997</td>
</tr>
<tr>
<td>Student N</td>
<td>Degree 78 weeks (18 months-shortened)</td>
<td>Nurse training</td>
<td>Postnatal ward Rural setting</td>
<td>Audio-diary 25,900 words</td>
<td>Qualified more than 7 years Full time ENB 997</td>
</tr>
<tr>
<td>Student P</td>
<td>Diploma 78 weeks (18 months-shortened)</td>
<td>Public services (hospital)</td>
<td>Postnatal ward Rural setting</td>
<td>Audio-diary Approx. 4,000 words.</td>
<td>Qualified more than 10 years.</td>
</tr>
</tbody>
</table>
The table above shows that most student midwives were in the second or third year of midwifery preparation programmes. For these students, the focus within their audio-diaries was intrinsically related to learning. Three students in the sample were studying on the shortened midwifery programme (78 weeks) and were all halfway through their professional preparation. Two had selected a degree and one was studying on a diploma programme. This presents a broad range of programmes as not all higher education institutions offer the shortened programme. Being a national project, the curriculum philosophy at each site varied, thus adding far more richness than a local or regional study.

It is a point of interest that some students were evidently contending with challenging personal circumstances. Some described the difficulties of having children with special needs whilst juggling working unsocial hours and studying. Students in rural areas described travelling more than thirty miles to a placement. One student managed to complete an audio-diary entry whilst in a car behind a tractor on a country lane! These students reported getting up at five thirty in the morning for an early shift. Other student midwives described working in supermarkets and taxi driving at weekends to boost their income. Some had four or more children and a few in the sample were single mothers. Exhaustion was sometimes evident in a student's voice. The commitment of each of the participants who completed diaries cannot be underestimated.

The brief biographical details of the mentors show that five had been qualified as midwives for over ten years, with one being qualified longer than thirty years. Several had been prepared as midwives through the direct entry route. Most were reported to be working full time and had undertaken the ENB 997/8 Teaching in Clinical Practice course. No further details are included so as to protect the identity of all who participated.

4.2.2 Criteria for inclusion in my research study

The sample comprises fourteen student midwives' audio-diaries due to the nature of the process of discourse analysis. Wetherell et al (2001) suggest that with the discourse analysis technique, participants may be selected because they belong to a specific, limited category in which there is an implied argument that the context of the material relates to wider social life.
The diaries providing the richest examples of explicit and implicit learning were from student midwives in their second or third years of diploma and degree programmes. This may be because they had some knowledge of the culture of midwifery and were able to articulate their learning and process their practice-related stories.

Additionally, the sub-sample of student midwives selected presented descriptive accounts of learning in practice. They also described how they perceived the mentors assisted them to internalise their learning. Students recorded their perceived confidence levels and provided dense descriptions of the working relationship with the named mentor. The longest audio-diary was 26,000 words when transcribed and several transcripts contained over twenty pages of raw data.

Discursive analysts are then faced with selecting a very small sample of data which not only justifies the emerging patterns in the language construction but indicates that the knowledge is shared by other members of the culture. Each event has a uniqueness which serves to show the impact of non-formal learning on the individual student midwife. Some of the language was far more colloquial than I had anticipated and students often captured the institutional context and interesting relational features of learning.

4.2.3 Criteria for exclusion from my research study

Five students' diaries have been excluded from my study. Four diaries were written and therefore lacked the detailed linguistic descriptions of non-formal learning. In comparison with audio-diaries, these seemed somewhat self-conscious and very brief. One student submitted an audio-diary but, due to being in the first six months of a pre-registration programme, the diary was excluded. It was judged that the student was distracted with issues such as living away from home for the first time and with an impending summative assessment in practice. As a result, the processes of learning alongside the mentor were not fully described. Additionally, the student in isolation as a lone informer would not have been representative of students at this stage of a preparation programme.

After deliberation, a decision was made to exclude diaries from mentors. As stated earlier, most mentors' diaries seemed 'self-conscious' compared with the descriptive
detail presented by students. This resulted in mentors' diary transcripts reading more as a log of events, rather than the expected detailed accounts of their strategies for teaching and supervising their individual students. Whilst exclusion of this group could be viewed as a limitation (partly in view of rich data emerging in what is not said) this set of data did not contribute information to help answer my research questions.

Discourses from the mentors' diaries did not contribute new information. Diaries helped in the creation of narrative identity, which draws attention to the unique in the human experience. Oral narratives are orally performed actions, providing expressions of the narrator's lived experiences (Frid et al., 2000). It was unfortunate that eight mentors who were allocated to work alongside their student midwives did not provide a complete narrative in my data set. Emplotment within the narratives was missing, due partly to the fact that detail was absent and the midwife mentors worked so infrequently with the student midwives who were allocated to them. This meant that narrative analysis could not be fully achieved when applied to the mentors' diaries.

It was judged that the inclusion of mentors' diaries (many of which were incompletely filled in) would not contribute to a more complete understanding of the phenomenon being studied. It is recognised that this could be seen as a limitation of my study through possible creation of bias. Although the integrity of the data could be questioned, the true test of data is that it correctly captures the subjects' understanding, relevant to the researcher's theory (Pawson and Tilley, 1998). This has possibly reduced validity across methods but the in-depth views of subjective expressions of individual students were extremely potent, offering the 'power of agency' (Denzin and Lincoln, 1985) and also unique profiles, offering entirely different perspectives regarding learning. Narrative analysis of the diaries provided a framework for commonalities and differences in experiences to emerge from the sample. Non-completion of the diaries by mentors did create gaps in the data. It was the commitment of the student midwives and the completeness of their narratives which enabled the student diaries to stand alone as a discrete data set:

"The objectivity of the narrative is found in the subjectivity of the individuals being transcended in the intersubjective narrative..." (Frid et al., 2000, p 697).
As stated earlier in this thesis, the key research aim was to explore how midwives were perceived to pass on their knowledge. One objective was to uncover the range of strategies the mentors used. Students' descriptions of the mentors' strategies for instruction indicated that, whilst some mentors demonstrated a passion for passing on the craft, the majority provided scant descriptions of how they transferred their practical knowledge and skills. Diary entries were generally found to be short and lacking in any detail.

Merging of the diaries within pairs proved a successful activity to address the research objectives in the national midwifery education study. The brevity of the mentors' entries did not affect the national study because an overview only of the mentors' teaching styles was necessary. However, although the student midwives and mentors were both invited to complete diaries for ten consecutive days, several mentors took a weeks' annual leave at the same time that the students were compiling their audio-diaries. During this time, students often described how co-mentors or other midwives in the team contributed to their practice learning. For the purposes of my individual study, this meant that vital information was missing concerning the building of knowledge within a continuum and also how levels of required clinical supervision were identified on a daily basis by the named mentor. It is important to emphasise that, through close examination and micro-analysis of the students' utterances in their audio-diaries, detailed narratives emerged which were uninterrupted and undiluted.

Therefore, the rationale for not including diaries of mentors was that the focus was on the student experience. How the learners circumvented difficulties with acquiring knowledge in practice tells the story of their own synthesis and construction of experience. The mentors' diaries became extraneous information because my research questions had a different focus.

In summary, inclusion of the students' audio-diaries only can be justified because each diary had a uniqueness and revealed the impact of non-formal learning on each individual student midwife. Some of the language was far more colloquial than I had anticipated, which often captured both the institutional context and interesting relational and personal features of learning in practice.
4.3.0 Discussion of practicalities of using diaries as a research tool

The diary has traditionally been used in health and social science research but its use in nursing and midwifery education research is more recent. The audio-diaries draw on oral traditions in midwifery. The private nature of the diaries used in my own study provides a depth of richness about the realities of implicit learning which would be hard to capture fully through any other method. This accessibility provides strength to diaries as a method of data-collection as data can reveal:

...the highly complex nature of caregiving and the invisibility of much caregiving work. Such dimensions (behavioural, cognitive and affective) are not rendered simultaneously accessible by other types of data collection techniques.


A diary is defined as:
- A regular sequential record
- Personal to the individual diarist
- Contemporaneous
- May be written, audio or audio-visual

(Alaszewski 2006 p 12)

Polit & Hungler (1991) have placed diaries in the category of semi-structured or unstructured self-report techniques of data collection. Whatever the structure, diaries allow for freedom of expression by subjects and for the recording of information at the time of, or shortly after, the event or experience (Ross et al, 1994). The diaries in this study represent a recording of what was significant for each participant, thereby creating a tool which becomes a vehicle or a means for the student midwives to communicate their identity to others. It created a way for them to highlight, in their own language and symbols, the opportunities and challenges inherent in learning and teaching activities in the clinical arena. The decision to focus on the diary as a method was guided by the research topic, aims and objectives.

Diary-keeping was one method used to gain second year student midwives' views of their working role in Ireland (Begley, 2001). Participants were requested to keep an unstructured diary for ten weeks of their clinical placement but some completed only three weeks. Although not mentioned as a limitation in the discussion, the average word
count was only approximately 1000 words so commitment to completion of the diary was obviously variable in the study, which inevitably affected the results.

In 1957, Merton et al reported on an excellent longitudinal journal study, the focus of which was the educative processes in a medical school in New York. Diaries were kept by 11 medical students over three years at various points of their medical training. Several frustrations emerge. For example, no examples are provided of the journal guide. The diary quotes appear to be considerably ‘cleaned up’ so some richness is missing. As a consequence, the contextual details are notable by their absence. The average length of diaries is not provided, nor are biographical details of individual participants. Some quotes capture the challenges of studying medicine and depict the hard work of being a novice physician, for example:

Studying medicine is a lot like digging a hole in the sand...more slides in
(Medical student, second year)

Merton et al 1957, p 221.

Despite the use of rather short extracts from the learning diaries, the uncertainties of medicine and palpable tentativeness this created were similar to the accounts provided by student midwives in my own sample. Medical students described finding the "vast sea" of information "overwhelming". Changes in confidence were found to occur in the third year of medical school but some medical students described feeling "dwarfed" by increased responsibility. One expressed feeling "a little bit like a pea on a griddle" due to "unsureness". These metaphors have echoes of the midwifery neophytes and appear similar linguistically across both genders. It would be fascinating to repeat the diary study as healthcare contexts have changed so dramatically in fifty years. Whilst commendable as a qualitative study of its time, the design was somewhat parochial and sampling techniques would need to be extended to counteract this.

4.3.1 The process of journalling

Clandinin and Connelly (1994) suggest that journal writing provides a powerful way for individuals to give accounts of their encounters and experiences, providing meaning to the narrator's 'fabric' of life. The authors point out that many journals are unpublished and yet provide detailed field texts. Unwritten aspects of practice may have previously seemed insignificant but, through the process of journalling, patterns emerge.
Yonge and Myrick (2001) assert that:

Journalling is an activity which can result in one of the most powerful and enduring of learning experiences...Successful application of this educational technique can lead students to a broader understanding...by engaging them in meaningful self dialogue.

Yonge and Myrick 2001, p 1.

The diaries for this midwifery study provide a level of detail about the field which has been a privilege to explore. Energy emerges from the data when they are presented in this format, which provides information about the multiple lenses through which students see their practice knowledge. As Clandinin and Connelly (1994) state, the data are enriched through having ongoing records of practices and reflections. This aspect was made clear to all student midwives who participated in the midwifery research study as it was the continuous journalling over ten days or shifts which helped capture their lived experience of practice learning on placement. This meant stressing the commitment needed by all participants at the outset of the data collection process.

The diary has also been found to be an unobtrusive way of tapping into more intimate and sensitive areas of participants’ lives (Corti 1993, Gibson 1995). Journalling was found by Koch (1998) to locate the personal in increasingly impersonal and technology focused health care environments. This has been an important element in my research because, as Halbach (2000) notes, diaries open up fields not normally accessible through outside observation. The student midwives in my sample showed a sustained commitment to completing their diaries and detailed their struggles and personal triumphs in their learning. Although the narratives relate to learning and are not, by nature intimate, in a similar vein to Halbach’s study (2000) exploring language students’ learning strategies, the inner processes of the learner are revealed through diaries.

Montgomery & Colette (2001) explored how a Women’s Studies course impacted on the learners’ lives. Through unstructured diaries, the students had a voice. The researchers did not want to constrain or ‘structure’ the women’s narratives and so rejected interviews and questionnaires as methods. One student made the decision not to speak out during lectures but used her diary to reveal the extent of domestic violence she had been exposed to by her then current partner. The researchers noted the personal emotional
growth of the student but highlighted the potential for exploitation of the diarists. They cite feminist researchers, Ribbens & Edwards (1998) who express the difficulties in being placed ‘at the edges’ between public social knowledge and private lived experience:

As researchers we embody and directly experience the dilemma of seeking knowledge and understanding on these edges, even as we seek to explore other people’s private lives and translate them into a format of public knowledge. Ribbens & Edwards 1998, cited by Montgomery & Collette, 2001, p 2.

Several student midwives in my study presented accounts of events which made me feel quite uncomfortable as a midwife, particularly if students reported seeing sub-standard practice being modelled. A benefit of diaries being completed over ten days or shifts was that processes for rationalising practices were articulated. Many students appeared to approach complex situations with maturity and reported benefitting from working within a wider community of practice. Montgomery & Collette (2001) found that diaries allowed freedom of expression for the participants, even though the students knew the diaries would be seen by the research team. They emphasise the importance of diaries and logs as introspective tools in research. Alaszewski (2006) adds that, not only do diaries minimise intrusion but they often offer ‘privileged access’ to the diarist’s world.

As much of the rich data would not normally be available through traditional research methods, there is added pressure as a researcher, to do justice to these valuable data. Ritchie & Lewis (2003) suggest that researchers question whether the naturally occurring data such as that presented through diaries, provide a sufficiently full picture of the research topic. However, Allen (1995) stresses the importance of anecdotal evidence in a profession where individual experience is often overlooked. There are often benefits for the storyteller of sharing experience (for example, catharsis and developing personal insight) but the author questions whether anecdotal evidence can withstand statistical analysis. Clandinin and Connelly (1994) encourage us to remember that with all personal memoirs, there may be other reconstructions. We need to analyse the coherence of the story and the weaving together of private and professional accounts, remembering that stories often change over time. The intention here is to demonstrate the usefulness of systematic analysis of the narratives through discourse analysis. Participants were invited to record what was important to them about the learning experience on each day, including what went well and what could have been better. Students were also encouraged to record how support from the mentor affected
their learning, thinking in particular about what enhanced or inhibited their learning and levels of confidence.

Davies & Atkinson (1991) undertook qualitative research on the early experiences of student midwives in one school of midwifery. Student diaries and ethnographic data were used to explore how students managed the transition and to document their coping strategies. The emphasis was on student midwives' initial encounters in their training programme only. The researchers did not really analyse the process of student journal keeping. This could have provided insights into the structure of diaries for this purpose. What is missing from the accounts of use of diaries by student midwives in Davies and Atkinson's study was how it felt to use the diaries as a method. In the national study, investigating teaching and learning in midwifery practice (Pope et al, 2003), both students and their midwife mentors who had completed diaries, described feeling generally positive about this part of the research process.

More recently, Kuiper (2004) compared 26 nurses' journals and found this method enhanced the nurses' metacognitive critical thinking abilities. Perioperative nursing had become marginalised as a speciality, leading to a shortage of nurses in this field. Each nurse was allocated a preceptor and time was set aside each week for the nurses to complete their diaries and participate in a discussion. The use of these reflection strategies was found to enable new perioperative nurses to adapt their clinical reasoning, particularly in situations of uncertainty. The practitioners were also found to be more comfortable with self-regulated learning strategies. One limitation of journaling cited was the need for participants to have weekly feedback on the journals. This would obviously have methodological implications but would need to be considered if the research was replicated.

Linda Pellico (2004) has moved the discussion on regarding journal feedback on further and, through analysing 132 journals, has considered issues raised through grading personal reflections from journals. Pellico's method of analysis involved merging Reissman's (1993) narrative analysis method with an aesthetic criticism model based on work by Chinn, Maeve and Bostick (1997). Critical challenges for students in an undergraduate nursing programme in America were; becoming vulnerable and learning how to learn in an accelerated programme. Some of the poems selected from students'
journals revealed the power of narrative. What is questionable, is the amount of preparation and 'guidance' given to the research participants prior to completing these poetic narratives. Yonge and Myrick (2001) question how much 'control' should be exerted by researchers when setting up journals as a research tool. They suggest that creativity can be stifled if control is excessive (for example, through imposing structure of the journals). When disclosure of journal entries occurs (either for the purposes of teaching, grading or for research), the issues of respect, vulnerability and trust emerge. Yonge and Myrick (2001) assert that each area raises separate ethical concerns, which will be addressed in the Ethics section of this chapter.

4.3.2 Limitations of diaries as a means of collecting data
As Higgins et al (1985) found with their investigation into the accuracy and biases of diary communication, certain types of events may be over-recorded. Conversely, Kirkham (1997) suggests that stress may affect recall to the extent that key elements may be omitted. Incidents which appeared to create most stress for students in my sample were obstetric emergencies. These were often related in intricate detail.

Jensen (1983) explores selective memory and suggests that recall of the past is not only selective but often out of sequence. Student midwives in my sample, in fact, seemed to relate their narratives sequentially. Two students recognised omissions of specific events and included these towards the end of an account. Spontaneous narration of their accounts appeared to trigger their memory, as opposed to being interrupted by an interviewer. Poirier and Ayres (1997) remind us that the stories humans tell will be full of inconsistencies. This, however, is compatible with the discourse analysis method.

Another possible limitation of using the diaries is that the students were not asked to specifically record explicit and implicit learning and so there will be issues related to undertaking secondary analysis. The framework for analysis has been extended and the data re-transcribed to explore the data for the research purpose. Ritchie & Lewis (2003) suggest secondary analysis can bring new perspectives to existing data but limits to depth may occur. Through carefully re-transcribing a sub-sample of audio-tapes, it would seem that, in fact, the reverse is true.
A possible disadvantage is that, through not using participant validation, or post-diary interviews about specific learning incidents, it was not possible to ask the students why they selected out the events that they did. What was it that gave each recorded event its meaning, intensity and personal relevance for the students' learning in clinical practice?

4.4.0 Narrative analysis: A discussion of principles and theories for sorting and handling student midwives' discourses

Social life in itself is storied:

... people construct identities (however multiple and changing) by locating themselves or being located within a repertoire of emplotted stories; that 'experience' is constituted through narratives; that people make sense of what has happened and is happening to them by attempting to assemble or in some way to integrate these happenings within one or more narratives.


Whilst stories are informal accounts of specific events, Priest (2000) suggests it is important to remember that narrative is more formal, structured and context sensitive than a story. Redwood (1999) asserts that the narrative tradition enjoys popularity from recognition of the well-known, as well as the opportunity to peer into less familiar worlds from one's own. Redwood (1999) does, however, bring some criticism to the debate concerning purpose and method of narrative, stating that the analytical process remains largely intuitive.

The study of narratives has previously been peripheral in social research although increasing attention has recently been paid to issues such as subjectivity and identity (Reissman 1993). Heather Richmond (2002) analysed adult learners' stories through use of a narrative inquiry approach. Case stories were completed by learners which were said to reveal a multilayered understanding of the emplotted experience. Richmond demonstrates how, through using the methodology correctly, transformative learning can occur. Researchers are warned, however, to be mindful of the differences between the events as lived and the events as told. A framework to examine the 'veracity' of learners' accounts needs to be developed as, as Richmond (2002) purports, learners may be simply saying what they think the audience wants to hear.
Interestingly, this did not seem to be the case for the student midwives who completed the diaries for the midwifery research project. There was evidence of honest portrayals of events and learning. The mentors, on the other hand, were more prone to completing diary entries using consistently 'professional' language. Denzin (1995) contends that, as researchers of narratives and texts, it is the 'lived textuality' which is at the heart of the analysis and not the lived experience of the narrators.

Labov (1997) attempted to observe how speakers talked when they were not being observed. He found that:

..continual engagement with the discourse ..gains entrance to the perspective of the speaker and the audience, tracing the transfer of information and experience in a way that deepens our own understandings of what language and social life are all about.

Labov 1997, p 1.

Returning to the raw data on a regular basis has increased my knowledge of the participants' lived experiences. As Burnard (1985) suggests, multiple interpretations may emerge from this continual engagement with the data. He suggests that this can, in fact, be a strength in capturing the 'real' meanings within the data. The process of inserting codes for re-transcription of the diary data added depth and meaning to the analysis.

According to Paul Ricoeur, the central element of a narrative is its plot. Plots are produced through the process of emplotment. Three forms of synthesis exist and often overlap in emplotment:

The synthesis between many events and one story
The synthesis between discordance and concordance
The synthesis between two different senses of time, for example, open and indefinite e.g. 'and then?' and time as something 'over with' (Lawler, 2002).

It is therefore emplotment which makes an account a narrative. Even if the events seem unrelated, they will be brought together through the overall coherence of the plot. In narrating a story, social actors organise events into episodes which make up the plot, although, as Lawler (2002) notes, this is not necessarily linear in presentation.
Objectivity through narratives is often variable. Labov (1997) suggests that the most effective narrators are those who use objective expression:

An objective event is one that became known to the narrator through sense experience. A subjective event is one that the narrator became aware of through memory, emotional reaction or internal sensation.  

Koch (1998) questions whether story telling is, in fact, really research. She suggests that if the methods are well 'sign-posted', the reader can be directed, thus increasing credibility of this style of research. Stories may be powerful tools, leading potentially to better understanding and ultimately, action. Helena Priest (2000) purports that a possible limitation with using stories for narrative analysis stems from the problem of form. She contends that stories are often not told in time sequence, meaning that the chronology needs to be reconstructed. This raises the question of accuracy. Mishler (1998) supports this by suggesting that stories within a text are not only 'found' by the researcher but are, in fact 'made' by the researcher. Labov and Walestzky (1967) assert that the craft of the researcher is to make connections with the originating functions of the narrative, which should always be retained. This means keeping a handle on the original semantic interpretation of the data through the research process. Richmond (2002) suggests use of schematic story maps to aid retention of the pertinent discourses. This is also aided by use of a narrative framework such as that put forward by Mishler (1998). Formal analysis of narratives is enabled using a process combining four categories:

Orientation (describes the setting and characters)  
Abstract (summarises the story)  
Complicating action (offers an evaluative commentary)  
Resolution (describes the outcomes of the story)  

Reissman (1993) successfully presents ways that narratives can preserve the narrator's way of organising their accounts. She stresses, however, that for the speech to be representative of the relationship between narrative form, meaning and social context, the transcripts must be full and complete. This involves inclusion of utterances (both lexical and non-lexical) and identification of all pauses. To have usable, accurate records of an account, and a display of the linguistic choices a narrator makes, Reissman (1993)
emphasises that speech is not ‘cleaned up’ (p115). Even with the rawness of data preserved as far as possible from transcribing and re-transcribing audio-tapes for this doctoral work, I would have to agree with Denzin (1995) that the researcher’s role involves mastering many controversies which emerge from the texts:

...Perception is never pure; it is clouded by the structures of language which refuse to be anchored in the present.


Student midwives in the midwifery research study were not asked to tell a formal story but shared their multiple perspectives of learning to become midwives. The accounts of learning were often not linear but narratives were extremely complex. As Priest (2000) asserts, the strength of narrative analysis as a method includes methodological compatibility with other approaches. The factual and emotional context can often be preserved through narrative knowing. The next section of this thesis describes the formal framework used to analyse the discourses and key methods used to interpret the student midwives’ more ‘temporal’ experiences.

4.5.0 Discourse Analysis

Discourse inextricably permeates social life, since everything people do is framed within a discourse.

Punch, 2000, p 226.

In this section, the aim is to define discourse analysis, to explore its practical application in research studies and to examine its strengths as a method for this research. Some theories of textual reading are presented.

Wetherell et al (2001a) assert that the study of discourse concerns the discovery and theorisation of pattern and order. Discourse analysts are concerned with how language is patterned and how these patterns of signification constitute culture. They are charged with analysing the organisation of everyday and institutional talk and constructing versions of social reality. As Gee (1999) asserts, the primary functions of human language are to ‘scaffold’ the performance of social activities and to scaffold human affiliation. Gee reminds us that Discourse Analysis provides a method of research as
well as a theory of language-in-use. The experiential function of language is therefore to represent experience.

Masterson (1998) reviewed discourse literature and found that terms related to Discourse Analysis were used inconsistently, with a 'bewildering' variety of approaches. Taylor (2001) describes the term discourse as 'slippery'. Conversely, Brown and Yule (1983) purport that the lack of rigidity for performing research using this method enables potential for diversity. A dilemma therefore exists for the novice discourse analyst as, whilst there is a possibility for creativity within formal frameworks, the boundaries are surprisingly blurred. To present a study which is robust and transparent, I found Potter and Wetherell's (1987) strategies for performing discourse analysis helpful and informative.

Discourse needs to be treated as an 'action-orientated' medium. The concern is therefore with talk and how it can be read. Research questions in discourse analysis focus specifically on construction and function. The central question for my research is a 'how' question with the focus being on how midwives share their practical knowledge with students. The linguistic features and use of language as a tool are key for the study. As Potter and Wetherell (1987) emphasise, the analyst needs to explore how the discourse is put together. The student midwives in my sample use highly descriptive language so detailed analysis using this structure draws on the power of description.

Ritchie and Lewis (2003) explicate the discourse analysis tradition by summarising the aims of the discipline:

Examining the way knowledge is produced within different discourses and the performances, linguistic styles and rhetorical devices used in particular accounts.


There has been a renewed interest in the power of language since the 1980s due to a revival of socio-linguistics. As a result, discourse analytic perspectives and styles are changing and continually developing (Wood and Kroger, 2000). These authors suggest that the focus of analysis in discourse analysis is not on language in the abstract (for example, phonetics and semantics) but on language in use and on the action nature of language. Although it is recognised that we can do things with words, and talk can have
a 'performative quality', in general humans down play talk as 'actions speak louder than words'. Gee (1999) suggests that how we use language is very political. Politicians may, for example, use techniques to 'foreground' and 'background' information. This has relevance to the language used to describe the students' mentors' style of teaching in clinical practice. Analysis of discourses varies according to the context in which language is used. Interactional analysis is concerned with social relations and the 'social-expressive'. Transactional analysis, meanwhile, is the process most suited to this research project, as the focus is on content of the language and the 'descriptive' elements (Brown and Yule 1983). What the content and structure of the discourse conveys forms the core of discourse analysis (Ritchie and Lewis, 2003).

Marshall (1992) suggests that language plays an important part in constructing versions of the social world and how people make sense of and act in that social world. In her study, discourse analysis was used very effectively to examine health carers' accounts of the maternity care they gave. In her rationale for using discourse analysis, the author asserts that, in most research analysis, inconsistency within the data is often seen as problematic. Discourse analysis, however, starts from the assumption that variation is positive. It is in the deconstruction of the language that the richest evidence of formal and non-formal learning will emerge:

Meaning is multiple, flexible and tied to culture
Gee, 1999, p 40.

Gee (1999) questions how speakers and writers give language specific meanings within actual situations. This is because meanings of words are not at all stable, so we continually change our language, creating and adapting it for varying contexts. Patterns of language come from unconscious recognition rather than conscious thought. The patterns and sub-patterns have to be found within the contexts the words are used. Gee, 1999 goes on to suggest that people's explanations are difficult to articulate, being often incomplete. Deeper thinking can lead to complicated patterns, which often emerge from higher order concepts. An unconscious 'storyline' is often attached to a word. For example, the word 'student' has situated meanings. Cultural models are often shared across people but as Lakoff (1997) inferred, may be signalled by metaphors. Gee (1999) asserts that situated meanings must be considered from the perspectives of both the 'author' of the discourse and the 'interpreter'.
There are a variety of styles of discourse analysis, each having a separate function. For example, Conversational Analysis, in which the focus is on naturally occurring talk. Critical Discourse Analysis is often concerned with language and power, usually having a focus on social issues and Discourse Analysis in Social Psychology involves radical rethinking of concepts, based on work by Potter and Wetherell in 1987 (Wood & Kroger 2000). An eclectic mix of these methods is possible, provided that all data are grounded in the categories emerging from the participant rather than the analyst and providing that the researcher remains guided by the data (Wood and Kroger 2000).

The authors emphasise the importance of ‘fidelity’ and the necessity to stay close to the data from the outset. This means taking care with transcribing. Wood and Kroger (2000) suggest that the first part of the transcribing is performed by a research assistant but with as little editing as possible. The transcript should be verbatim. To maintain the integrity of the data, the discourse analyst should then return to the tapes to build in all non-verbal and verbal aspects. This is because there is a tendency to correct grammar, pronunciation and other errors of speech and yet these errors are naturally occurring in most spoken language. To make the data manageable for formal analysis, Wood & Kroger (2000) have used the Jefferson system (1984). (See Appendix 3). Edwards (2003) suggests that learning to use a coding system such as this is similar to learning a second language. The time-consuming nature of the systematic coding is a deterrent for many researchers (Jones, 2003) and the practicalities need to be considered. For example, Edwards (2003) calculates that one minute of speech will take approximately ten minutes to transcribe. However, this estimated time excludes attention to pauses and notable changes in the speech.

Transcribing discourses

Green et al. (1996) suggest that it is impossible to write talk down in a totally objective way. They contend that transcribing, in itself, is therefore a political act, involving both an interpretive and a representational process. This is because a transcript is not the event itself, but ‘re’-presents an event. These re-presented data are not just talk written down but data constructed for a purpose by the researcher. Green et al. (1996) maintain that writing down what one hears is the result of a range of interpretive acts.
Flick (2006) suggests we need to consider more thoughtfully the relationship between text and realities. Much raw data (for example the voice in the audio-diaries) becomes transformed into text through transcription. These texts are the central basis for all ensuing interpretations and are therefore crucial to the research process. Flick (2006) states a concern with establishing control over the extent to which the original issues are reproduced through the transcription process.

Edwards (2003) alerts discourse analysts to the issue of bias within the transcription process as:

Transcripts provide a distillation of the fleeting events...frozen in time, expressed in categories of interest to the researcher.


As any individual decision about content is prone to bias (which cannot be adjusted by a computer programme) different systems are required which aid in reducing bias. These systems require attention to domains such as:

a) Words
b) Units of analysis
c) Pauses
d) Prosody and
e) Non-verbal aspects

Edwards (2003) emphasises the need for all the above domains to be encoded neutrally.

a) Words
When considering actual words, the discourse analyst has to make a conscious decision as to whether to include, for example, regional accents. As student midwives who completed audio-diaries in my sample were from Higher Education Institutions across England (including northern and southern regions), any distinct regional variations have been excluded. The decision was made to preserve confidentiality, which had been assured in all applications to local research ethics committees.
b) Units of analysis
The transcribed text needed to be divided into units. Edwards (2003) purports that the discourse analyst must decide on divisions by paragraphs or episodes. This obviously affects the location of line breaks.

Much of the diary data in my research divided fairly naturally into episodes, particularly where the student midwives elucidated some of the specific support and teaching strategies used by their named mentors. Problems sometimes occurred when the ‘unit of sense’ was too long. To remedy this, Edwards (2003) recommends starting each sense unit on a new line. This was certainly a pragmatic procedure for presentation of my own data.

c) Pauses
These are measured slightly differently. I selected to use the Jefferson method (1984) for the transcription method as both verbal and non-verbal aspects can be recorded quite simply using a regular computer keyboard. The intention was to use a transcription method which detracted as little as possible from the essence of the language used by the students. Jefferson (1984) advocates for pauses being measured to the nearest tenth of a second as all pauses are potentially meaningful.

d) Prosody
This includes features such as the speaker’s intonation and vocal pitch. Edwards (2003) suggests that listeners may ‘look past’ the prosody and much depends on the auditory perception of the discourse analyst.

Some student midwives in my sample exerted quite an extensive voice range. I have tried to include variations in pitch and marked it in the actual text. A sudden softness in voice in the audio-tapes, for example, was sometimes indicative of possible disappointment, an apology or perhaps uncertainty. These all have potential to impact on learning and have therefore been included. As suggested by Edwards (2003) words which are audibly stressed by the speaker can be given visual prominence, such as capital letters or presented in a bold font.
e) Non verbal features
Edwards (2003) asserts that non verbal actions are often independent of spoken language. This means that the discourse analyst has to decide on the most effective format for displaying this form of communication. When student midwives in my sample turned off their dictaphones, particularly if it was mid-sentence, it may have indicated the need for a prolonged pause.

One student midwife’s audio-diary took seven hours to transcribe. The process of re-transcribing creates limitations in itself but is worth the time for capturing individual linguistic detail. Student midwives with strong regional accents presented tapes which took even longer to transcribe!

4.5.1 Interpreting the material
In terms of analysis, Wood & Kroger (2000) begin to differentiate between concepts of content analysis and discourse analysis:

Content analysis involves a much more mechanical process of categorization, neglects the possibility of multiple categorization, and aims to quantify the relationship between coding categories. It cannot provide the sort of sensitive, penetrating analysis provided by discourse analysis.


The aim is not to apply categories (as in grounded theory and much content analysis) but to identify the ways participants themselves actively construct and employ categories in their audio-diaries. This takes much reflexivity on the part of the researcher but is a creative alternative to interviews, which can often become ‘staged’ and vulnerable to the biases of the interviewer.

As Norman Denzin (1994) suggests, interpretation in the social sciences is paramount because nothing speaks for itself. Communicating one’s understandings to a reader means explaining the craft and providing a map of the perceived realities in a social setting. The researcher must strive to search for the dominant discourse and, as Edley (2001) asserts, examine the culturally dominant ways of understanding the world. In the 1970s, this was termed hegemony by Gramsci (1971). Edley (2001) goes on to suggest that, because discourse and practice are inextricably linked to one another, language in itself becomes a form of practice. In an empirical examination of masculinity as
discourse, Edley contends that identities are more ‘fleeting, incoherent and fragmented than believed’ (p192). This helps us to deconstruct, through examination of language, some of the practices and characteristics of a group in which behaviour is often understood as normative.

Masterson (1998) suggests that, at times, the intentions of the author and the meaning of the written text may not coincide. She purports that demystification can occur through reflecting on the discourse, leading to:

> critical, penetrating questioning of the taken-for-granted aspects of particular circumstances.

Masterson 1998, p 89.

Lexical semantics is the term used for description of the relationship between a language and the world (Brown and Yule 1983). Contextual details will therefore be taken into consideration when interpreting the data from the students’ audio-diaries. Utterances are indexical, their sense depending on their contexts of use (Wetherell et al 2001b).

One of the benefits of using audio-taped diaries is that the researcher can listen repeatedly. The aim is to discover regularities in the data and describe them. It has been helpful to listen to the audio-diaries with no visual support. Brown and Yule (1983) describe how this enhances the analysis of paralinguistic cues, for example, the warmth of a voice and verbal underlining of words. This is achieved by using a high pitched voice or increasing loudness to reinforce meaning. These voice signals are said to be equivalent to using italics and should therefore be included in the transcript as they form the record. This interpretation of acoustic signals provides emphasis within the discourses. Written language contains more metalingual markers, for example, ‘besides’ and ‘however’ (Brown and Yule, 1983). Speech production is less richly organized than written language, ‘containing less densely packed information, but containing more interactive markers and..fillers’ (Brown and Yule, 1983). The differences in form between written and spoken language may include differences in dialect and accents. The students were undertaking their programmes in different parts of the country, so were not influenced in any way by each other.
The written diaries submitted by student midwives for the national midwifery education study (Pope et al 2003) were often brief, some in note form, with defined meta-lingual markers. In contrast, the audio-diaries demonstrated more natural language. Even the incomplete sentences in the speech provide rich spoken material for interpretation. Deborah Schiffrin (2003) asserts that discourse markers display both personal (expressive) and social identities within units of language longer than a sentence. Markers are words such as ‘well’, ‘oh’, ‘but’, ‘you know’ and ‘because’. The markers contribute form and function to the utterances and some markers actually connect utterances. Schriffin (2003) suggests that how markers are distributed through a discourse can be significant. Some contribute to cohesion, for example, ‘I mean’ between utterances. Teachers, for example, often say ‘okay’ as a discourse marker. Others provide ‘contextualisation cues’, adding to pragmatic meaning of the speaker and subsequently the intended message. Markers such as ‘You know what I mean’ frequently occur in the diary data and provide an example of ‘filled pauses’ (Schriffin, 2003). Analysis of the pauses more generally provides interesting information.

Deconstructing accounts is an essential part of the discourse analytic technique but as Parker (1988) purports, there is a tension which surfaces in the process of deconstruction. This is because pulling a text apart creates distinctions between the ‘everyday’, ordinary account and the reconstructed ‘extraordinary, manufactured’ text.

Ward and Bimer (2003) purport that what speakers decide to say and how they say it (syntax) is affected by the context. There is therefore a need for generalisations that can be applied across discourses in order to examine information structure. Utterances often represent new information and the discourse analyst must decide whether it is ‘new to the discourse’ or ‘new to the hearer’. Is the information explicitly evoked or inferable? (Ward and Birner 2003 p 121).

To explain his theory of textual analysis, Gee (1999) examines utterances using a set of ‘building tasks’. We use different grammatical resources through speech to carry out the six building tasks. These tasks involve:

Semiotic building (the situated meanings in communication, ways of knowing etc)
World building (real and unreal)
Activity building (specific actions)
Socio-cultural and relationship building (relevant relationships/interacting etc)
Political building (status and power)
Connection building (past and future connections)

These tasks have been useful as a framework, in conjunction with Eraut's (2000) typology of non-formal learning, in which past and future connections are identified.

4.5.2 Interpretive repertoires

A repertoire is a register of terms and metaphors drawn on to characterise and evaluate actions and events.

Potter and Wetherell 1987, p 136.

Interpretive repertoire is said to provide a crucial resource in the construction of identity. In Discourse Analysis terms, interpretive repertoires are 'commonsense' versions of reality which subjects select to account for and represent the social world (Stapleton, 2001). The terms Discourse Analysis and interpretive repertoires are often used interchangeably but Wetherell et al (2001a) explain that discourse may represent a whole institution (for example, the court) but interpretive repertoire is more fragmented, demanding familiarity by the researcher of the 'discursive terrain'. This means recognising the patterns across different people's talk and identifying recurring patterns of word use, imagery and ideas within talk (Wetherell et al 2001) as well as a range of ways of talking (Edley 2001).

An interpretive repertoire can assist people to deal with the unfamiliar and help to explain social representations, their attitudes and beliefs. The terms within a repertoire are recurrently used 'systems of terms' (Potter and Wetherell 1987). As found within the diary discourses, repertoires were often organised around metaphors. Several student midwives, for example, used drowning type metaphors, specifically stating they felt out of their depth in a range of practice situations. For example:
"I felt totally out of my depth" (Student A, second entry).

Wetherell and Potter (1988) suggest that the value of interpretive repertoires as a fundamental analytic unit is often overlooked. This is largely due to assumptions about
spoken accounts as utterances between speakers are often thought to be neutral but utterances are actually speech acts in themselves. The meaning, however, depends on the much broader ‘discursive systems’ in which each utterance is embedded. The function nature of language is evident in explanations or in the language of blame or apology. Wetherell and Potter (1988) assert that talk is frequently packaged oversimplistically and in descriptive terms when, in fact, the effects and functions of the discourse extend beyond basic description. This is where the rigor of the discourse analyst comes in as it is the interpretation of each discourse and variation across the discourses, which is critical. This can often be challenging for discourse analysts because:

Speakers give shifting, inconsistent and varied pictures of their social worlds.

Different meanings in different contexts occur when a particular discourse is invoked. Silverman (2001) reminds us of the importance of both verbal and non-verbal cues, to aid sense-making and provide semantic content. It is the building blocks of conversation and speech which provide a basis for shared social understanding (Wetherell et al 2001a). However, boundaries between one interpretive repertoire and the next may be difficult to identify and will therefore necessitate the need to follow one’s ‘hunches’. Although practice is said to aid the craft of interpreting narrative, the key is said to be familiarity with the data (Wetherell et al, 2001b). Dilemmas also exist in identifying ‘intellectual’ versus the ‘lived’ (or more common sense) ideologies within a discourse (Edley, 2001). A montage of varying discourses may be presented which have emerged over the course of many generations. Edley cites Gramsci (1971) to demonstrate how maxims we use, such as ‘too many cooks spoil the broth’ provide claims or statements which have stood the test of time, despite the fact that many of these maxims can be contradicted. This brings us back to the ‘commonsense’ aspects of reality, as a skill needed by any researcher to interpret any given repertoire (Stapleton, 2001).

Several dominant discourses were evident across the student midwives’ diaries (both audio and written) in my data set. The students used metaphors within their interpretive repertoires, which became the ‘building blocks’ for them to construct their version of events and to create their learning narratives. The active selection of the speech by the speakers means that language can be used for positioning (Adams, 2001).
Extreme case formulations can be used to state one’s espoused position. These extreme cases often utilise maxims (or maximum language) and Potter and Wetherell (1987) suggest they are used to take an adopted dimension to extreme limits, for example:

“...My mentor has got a lot of experience and is a very, very good communicator” (Student N).

The repetition of the word ‘very’ creates the maximum language and assists the student to formulate her claim. Another student used an extreme case formulation:

“[My mentor] was very patient. Very, very patient” (Student A).

Again, emphasis is on the word ‘very’. Throughout the data set, the word ‘really’ was also used to suggest and extreme case:

“Urm, I really want to see breastfeeding improve...I really think I need to push myself in this area...”
(Student B, lines 5 and 8).

4.5.3 Possible limitations of discourse analysis

It has been asserted that too much critical attention is often focused on the details of spoken language, making it prone to over-analysis (Brown and Yule 1983). Although the interpretation of each text is essentially subjective, the authors concede that tape-recording does preserve the ‘text’. Although accent and pronunciation are often lost through transcription (Brown and Yule 1983) this is actually beneficial to preserving utmost confidentiality of all participants in my study.

Erica Burman (2003) suggests that, partly due to the broad spectrum of discursive approaches available shortcomings in data analysis are common. These include use of summaries or descriptive accounts of transcripts as this has potential to decontextualise the data. Additionally, the paralinguistic features which often make accounts so rich are ‘stripped away’. Burman (2003) adds that it is also common for over-quotation to lead to under-analysis of the discourse. This ultimately leads to dilution of the data analysis.
The characteristics of spoken language include slang and what Brown and Yule (1983) term ‘performance data’. Because the discourse analyst has no direct access to the speaker’s intended meaning, there is a reliance on the process of inference for interpretation of the data. As this is often based on socio-cultural knowledge, Brown and Yule (1983) emphasise the importance of avoiding presupposition. For this research project, the researcher’s knowledge of the contextual settings may influence expectations and issues around potential bias have been addressed. Burman (2003) emphasises that all discourse analysts should clearly state the position they hold (for example, as a feminist) to help minimise subjectivity.

What appears to be missing from discourse analysis as a method is a formal encoding system which is standardised enough to support international data sharing. As Edwards (2003) points out, mark-up conventions on transcripts can be standardised to some extent (for example using computer packages) but decisions about categories for data are dependent on individual discretion of the researcher.

The national study investigating teaching and learning (Pope et al, 2003) used a multi-method approach. This means that a thorough multi-level analysis has already been performed. Use of a computer-assisted qualitative data analysis (CAQDAS) package was considered early in the study, for example NUDIST or Atlas Ti, but it was felt that de-contextualisation of the data may occur.

An advantage of using Discourse Analysis as a method is that the researcher is able to stay close to the data without disturbing it (Brown and Yule 1983). In essence, the strength of the discourse analytic technique has surfaced through the manual handling of the data and recurrent listening to the learners’ voices. The challenges of learning the craft of midwifery were expressed in idiosyncratic ways in which emotions and emphasis on certain words emphasised the richness of the student midwives’ accounts. The tone of the utterances and degree of reflexivity made the data set raw, organic and totally unique. The ways that uncertainty, fear and anxiety were expressed by individuals had been overlooked through performing thematic content analysis in the national midwifery education study. For these reasons, and because of the sensitive nature of personal knowing, it was not felt appropriate to sort the data electronically. Approximately 23 hours of data were transcribed and re-transcribed using a well-known, systematic
method (Jefferson 1984). Ultimately, handling of the data has entailed far more than
coding of the literal. Reading above and below the line (and, in some instances,
acknowledging what was not said) mitigated against using technological packages in this
instance.

4.6 Triangulation

Triangulation of methods has been cited as increasing credibility of results (Massey
2000). Controversy surrounds the issue as it is said that confusion may occur (Pawson &
Tilley 1997, Shih 1998). However, when one method only is used in a study, there is a
risk of potential bias (Denzin 1998). A benefit of using a single method is that the data
volume is often more manageable. Shih (1998) also postulates that, despite the potential
advantages of triangulation research, there are minimal specific guidelines for carrying it
out. In addition, it has been found that triangulation of methods, observer or theory
triangulation in studies can lead to 'false signposts' (Massey 2000). Shih (1998) states
that the ultimate aim in research design is to achieve completeness and increase
understanding of the chosen topic.

Pawson and Tilley (1997) purport that a multi-method approach is often viewed as the
panacea. They suggest this is an ill-defined concept and ask how one is expected to
know when to stop combining methods:

Combination can invite the collection of a surfeit of different types of information-
quite possibly telling tales which simply talk past each other.

Pawson and Tilley 1997, p158.

Odegard (2004) contends that this phenomenon often occurs for two reasons; firstly,
health research is an extremely complex field and secondly, methodologies are often
combined without addressing deeper paradigm issues.

Other limitations of the methods selected are that, for example, the methods are not
triangulated. Whilst triangulation has many strengths (Jicks 1983), the research
questions would not be answered in any more depth through using other methods. In
fact, some of the detail may become lost. As Boud et al (1993) suggest:
...more is often lost than is gained by ignoring the uniqueness of each person's history and ways of experiencing the world. 

Boud et al 1993, p 56.

Emphasis for this research centres on student midwives' direct experience. Using a variety of methods in this case, would potentially have provided a superficial overview of learning in practice, rather than an in-depth investigation.

4.7.0 Assuring quality in qualitative research and discourse analytic methods

Flick (2006) suggests that 'reliability' and 'validity' are essentially misnomers in qualitative research but, to ensure legitimacy of qualitative studies, there need to be quality criteria and measures to assess studies. Examples include:

- Interview training for researchers (if interviews are used)
- Transcription rules, to clarify procedures for transcribing data
- Documentation of the whole research process.

Problems appear to exist, however, because there is a lack of consensus as to the viability of applying traditional criteria.

Seale (1999) asserts that it is transparency of the analytic claims and validation of the data trail which enhance validity. Mishler (1990) suggests that the whole concept of validity in qualitative research needs to be re-formulated. The process of validating evidence is stressed, rather than the use of ‘validity’ in its traditional form. Qualities such as trustworthiness and the construction of credibility of the researcher are emphasised, directly opposing terms such as reliability and objectivity.

Lincoln and Guba (1985) encourage all qualitative researchers to seek feedback on findings from colleagues and promote peer debriefing, auditing of all notes (including notes from pilot studies). Miles and Huberman (1994) suggest additional strategies to improve quality of research, such as ‘confirmability’ and ‘dependability’ of data.

To assure quality of the discourse analytic technique, the researcher should ask someone totally unconnected with the research to analyse ‘blind’ a piece of data that has already been analysed (Masterson 1998). To assist with validation of the data and to
ensure consistency of analysis throughout the data set, an independent researcher analysed samples from my data, and validated it to confirm there was consistency in use of the discourse analytic technique across the data set. The researcher is a professor with a background in speech therapy and linguistics who has used discourse analysis extensively.

Involvement of this external reviewer was helpful in providing neutral responses to specific use of the analytic technique. The reviewer indicated that the technique worked well because, although not all repetition had been included, the data had captured significant language related to the research questions. Inter-rater reliability was therefore achieved.

Gilbert (1993) states that ‘reliability’ is demonstrated if others using the same tools and sampling criteria produce similar results. An important design research issue for ensuring reliability is to clearly define the sample. Clear instructions for completion of the diaries were issued to all research participants. The instructions were also consistent i.e. the same for all participants completing the diaries (Gilbert 1993). There was minimal researcher-influence, except to explain how to use the audio-taping equipment.

Silverman (2001) stresses the need for conventionalisation of methods for recording transcripts. These transcripts should be appropriately documented and transcribed verbatim, using the tapes. Examples of transcripts are available in the appendices, as advocated by Silverman (2000) to assist in increasing the reader’s knowledge of the reliability and validity of the diary data. Despite the time-consuming nature of Discourse Analysis, it is imperative that a system for analysis is used.

In terms of credibility, my experience as a midwife, educator and most importantly, as a researcher are relevant in achieving plausibility, authenticity and demonstrating expertise within the research process. Lincoln and Guba (1985) suggest that, for credibility, researchers should identify themselves with experiences. Additionally, researchers should explicate their own values before beginning analysis (Masterson, 1998). A research diary has been maintained for this purpose. As Cameron (2001) cites, discourse analysts should not simply verify their own preconceptions.
Masterson (1998) produced a comprehensive list to help ensure rigor in discourse analysis:

Would another researcher extract the same information from the available documents?
Has enough care been taken to ensure that superfluous information has not been taken as being central?
Would other researchers have interpreted the material differently?
How far can the information that has been extracted be generalised?

(Masterson, 1998, p101)

Generalisability in Discourse Analysis is said to depend on the sample size and also on the generality of the discursive claims (Silverman 2001). There is a complex literature questioning the extent to which qualitative research can be generalisable. The purpose has not been to generalise from the sample but to uncover an extensive range of previously unaddressed elements concerning non-formal learning in practice.

Validity is said to be the ‘truth status’ of a respondent’s account (Silverman, 2001). With diaries, there is obviously a risk that respondents can falsify their accounts. From the national study (Pope et al, 2003) it became evident that those who lost interest in completing their diaries (n =2 students and n =1 mentor) merely abandoned recording their activities. Ritchie & Lewis (2003) assert that accuracy and completeness of an account are essential, particularly if some elements are instinctive in nature, as the participant’s own account will then be partial. Gee (1999) highlights the importance of reciprocity between language and ‘reality’ (p80). The validity of an analysis is not how detailed the transcript is but how the transcript works together with all the other elements to create a ‘trustworthy’ analysis. Gee (1999) suggests that validity for discourse analysts is dependent on four key elements:

i) Convergence. This involves analysis with convincing answers to the building tasks questions
ii) Agreement. The data are agreed and supported
iii) Coverage. This involves making sense of what has happened before and after the situation
iv) Linguistic details. This involves detailing functions of the language and linguistic structure.
Clandinin and Connelly (1994) suggest that field texts are not usually constructed with a reflective intent. However, rather than simply interpreting and summarising the texts of others, the researcher should also have a voice (or signature). There is debate as to how lively this signature should be:

Voice and signature make it possible for there to be conversations through the texts among participants, researchers and audiences.


The signature of each student in my sample came through in their audio-diaries. Long discourses illuminated uniqueness of each person and also uniqueness of context.

4.8.0 Ethics and ethical considerations
The term 'ethics' is said to refer to the study of morals and is a 'code or set of principles by which people live', providing a framework for examining decisions and actions critically (Lyon and Walker, 1997). The authors assert that one hallmark of professionalism is consideration of ethical issues. With increasing numbers of professionals from nursing, midwifery and health visiting being involved in research there has been a need for raised ethical awareness. Punch (1994) raises the issue that, with an increase in neophyte researchers, there will need to be increased support for them in making decisions when they are most vulnerable. Punch (1994) states that research is a demanding craft in which researchers must cope with ethical dilemmas. Janesick (1994) contends that from the first moments of informed consent decision to the final stages of a qualitative study, researchers must be open to the possibility of ethical dilemmas arising (and possibly recurring). It is the responsiveness to ethical concerns which is crucial. Punch (1994) suggests that most concern revolves around issues of harm, consent, deception, privacy and confidentiality of data. This is of particular importance with the advent of the Freedom of Information Act (2005). A continuing dilemma for researchers is the protection of subjects versus freedoms to conduct a study and publish research findings (Punch 1994). With the key aim being avoidance of harm, Ethics Committees have been established. Conditions have been formalised with research governance changes in 2003.

Beauchamp and Childress (1989) cite four main ethical principles which should be consistently attended to in the research process:
The principles will be briefly addressed individually:

Autonomy is the ability to choose freely and direct one’s own life. To aid autonomy in others (for example, patients), adequate information is essential so that an autonomous decision can be made. Informed consent is said to be the consent received from the subject after information which has been carefully and truthfully imparted (Fontana and Frey 1994). Due to sensitivity of the material in the diaries completed for this midwifery research, care has been taken to protect the identity of each participant as a component underpinning all ethical decisions is protection of harm (physical, emotional or other).

In each of the five case study sites for the national midwifery education project, (Pope et al. 2003), management permission was obtained from the Dean and Lead Midwife for Education (previously the Approved Midwife Teacher) at the Universities. In the associated Trust sites, recruitment was dependent on management permission from the Heads of Midwifery Services and lead clinicians. This is an important point as the achievement of the initial consent procedures means that formal ethical approval has been obtained. All information relating to my study was submitted to the University of Surrey Ethics Committee. The pack included:

- Cover letter
- Protocol cover sheet, signed by both supervisors
- MREC application form and letter from Professor JM Ritter (Chairman, South Thames MREC). This was from the national study (Pope et al. 2003).
- LREC letters, providing full approval at each case study site.
- Project information sheets
- Guidelines for completion of the learning diary
- A detailed protocol for the project and a project summary.

The pack was reviewed by the committee and no concerns were raised.
Confidentiality has been maintained. At no time will the names of those who gave permission to be participants be made public or disclosed. The danger of over-reading and betraying anonymity of the participants has been alluded to by Poirier & Ayres (1997). As mainly audio-taped diaries have been transcribed, there has been no alluding to accents, people or places encountered. Tapes will be destroyed according to the Data-protection Act (2000). All reports of the research (including the final thesis) will be available to read and appropriate credit will be given to all parties contributing to the research.

As Punch (1994) suggests, the issue of published material can create tensions, largely due to the trend for affectivity in accounts of research. It is for this reason that the purpose of the research should be remembered. Additionally, Yonge and Myrick (2001) suggest that specific ethical considerations are required, due to the risk-taking involved by students in journalling. Specific issues related to journalling raised by the researchers following work in Canada involve: Respect, vulnerability and trust.

Respect

Yonge and Myrick (2001) encourage students to consider the degree of self-disclosure appropriate for a learning diary. Student privacy must also be observed. Care must be taken not to disclose from journals out of context or to exploit or devalue students’ narratives. Although this advice is primarily written for teachers, these words of wisdom provide essential good practice for researchers.

Vulnerability

Some students journal openly ‘from the heart’ (Yonge and Myrick 2001) but may make themselves vulnerable in the process as their views may be thought of as overly sentimental. Other students may find disclosure about personal learning threatening.

Trust

Thoughts, values and beliefs will not be fully expressed if students feel there is any risk of having negative feedback. Yonge and Myrick (2001) suggest that for successful journaling to occur, students must feel comfortable, safe and free to authentically self-express.
4.9.0 Summary
The purpose of this chapter was to clarify the methods and design of my research.
Chapter Four has presented the rationale for selection of diaries as a research method and described the discourse analytic process and importance of transcripts which are not 'cleaned up'. The chapter provides background detail regarding the narrative analysis process. The aim has been to demonstrate congruence between the epistemological and methodological frameworks selected to address the research aims and objectives. Advantages and disadvantages of using a method which is not yet mainstream have been posited. Ethical issues related to using data from diaries have been considered. The next chapter presents a detailed analysis of the diary data.
CHAPTER FIVE
ANALYSIS OF DIARY DATA

Her eye, her ear, were tuning forks, burning glasses, which caught the minutest refraction or echo of a thought or feeling... She heard a deeper vibration, a kind of composite echo, of all that the writer said, and did not say.

Willa Cather, cited by S.B. Breathnach (1995) in 'Simple Abundance'.

5.0 Introduction
The previous chapter provided detail concerning the methodological frameworks and overall design of the research. With the central area for exploration being non-formal learning in midwifery practice, Eraut's (2000) typology of non-formal learning has been modified, incorporating implicit, reactive and deliberative modes with Spouse's (2003) theories concerning knowing-in-waiting and knowing-and-use. This forms the key analytic framework to assist in managing the data. Extracts have been selected from whole transcripts. These link directly to Eraut's sub-headings within this framework and include: 'Recognition of learning opportunities' and 'A selection of experience enters the memory' (see Figure 10).

To summarise each student's discourse, a table has been collated which begins to pull the literature and data together. This research was essentially data-driven. Each table summarises the related literature, for example, Lisa Dalton's conceptualisation of clinical space (2005) helps categorise 'language used to describe experience'. Vygotsky's (1956, 1978) learning theories assist in categorising outcomes for students' learning.

Coding of data using Gail Jefferson's (1984) transcription method (see Appendix 3) provided insights into how student midwives internalised their learning. Emphasis on certain words was idiosyncratic but the consistent use of a comprehensive coding system helped reveal patterns across the sample, particularly in relation to common challenges in clinical learning situations. Jefferson's (1984) symbols (including pauses) helped capture aspects of speech production within the utterances and the way things were said (Wetherell et al, 2001b). A line-by-line micro-analysis has been performed. Importantly, this study puts emphasis on the actual language used to assist understanding of the multilayered learning in midwifery practice.
The first extracts selected from the audio-diaries provide examples of the impact of anxiety, and possible stress arising from ambiguity of some clinical situations. The language is rich in description of expressions of uncertainty arising from experiential learning. Part One of this chapter takes the language students use to describe their learning as its focus.

Vygotsky's (1956,1978) cognitive development theories, in particular, the zone of proximal development for scaffolding all the aspects of learning (including emotional learning) have helped to tease apart the data which reveal a range of strategies the
mentors were reported to use to support students in their non-formal learning. Eraut's (2000) typology of non-formal learning demonstrates what Spouse (2003) terms 'knowing-in-waiting' in both the implicit learning column and the reactive learning column.

These conclusions have been reached through the blending of theories. This has involved Eraut’s (2000) typology, Vygotsky’s (1956, 1978) learning theories and Dalton’s (2005) conceptualisation of clinical space. A selection of the language used by student midwives has also been summarised in charts to provide an overview of the perceived nature of practice learning for each student.

The data placed in the category of deliberative learning (from Eraut 2000) demonstrates the potential for students to move from intra mental to inter mental learning through systematic strategies by their mentors. This helped students to order their experiences, assisting with problem solving and reflection in new ways. Part Two of this chapter therefore takes as its focus an in-depth analysis of the techniques mentors were described as using to pass on their craft knowledge.

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2 The intra-mental mode is described as the cognitive function that goes on 'inside one's own head' (Spouse 2003, p 200) such as individual problem solving, as opposed to inter-mental modes which involve using language to mediate learning with a mentor (Vygotsky 1956, 1978).
5.1 PART ONE: LANGUAGE USED BY STUDENTS TO DESCRIBE PRACTICE LEARNING

This section explores the language students employed to disclose their knowledge and to describe more alternative forms of learning. The value of discourse analysis is that lengthy discourses could be used, so displaying the language-in-use at that time.

The first student (Student A) was studying for a Diploma in Midwifery and was at the beginning of Year 3. The placement was in a delivery suite in a hospital setting. This extract has been selected because of the rawness evident in the language-in-use and the honesty portrayed regarding the power of first experiences.

Examples from the data: Student A

1 [My mentor] reads people very well and she reads situations very well.
2 'She wouldn't leave me'...
3 My exposure to theatre hasn't been great (*
4 and theatre does frighten me (' a lot.
5 It's not just that it's a major operation<
6 It's that (' I just feel like a fish out of water....
7 And you really feel like you don't belong; you're intruding.
8 [My mentor] seemed to read my mind and sort of just (') pushed me in.
9 She also said we needed to take a few babies.
10 >Again, something that absolutely terrifies me< .hh.
(Student A, audio-diary, p1)

Linkage of past memories with current experience (Implicit learning)

The extract opens with the student describing how the mentor read people, situations and later she "read my mind" (Student A). This is an interesting word for the student to use as, more often, health professionals select words like 'assess' to describe how they analyse clinical situations. The student describes how uncomfortable she feels in the operating theatre situation. Her language denotes her intrusion and feeling of being on the fringes. This provides potential opportunities for the mentor to scaffold the learning design activities based on the Zone of Proximal Development (Vygotsky, 1978). The student portrays through her language, the culture of the operating theatre and the overarching need for structured apprenticeship and 'befriending' (Spouse 2003) from the mentor, in order to have a sense of 'belonging'.

163
Student A - the following day

1 ...I've just done a shift on Labour Ward.
2 Today (*) I was not with my mentor...
3 I always feel a bit (1.2) worried when I come on and I'm not with my mentor,
4 and I never know who I'm going to end up with.
5 >These are the days that I really miss [her]<.
6 When I walked onto the ward, there was a lady going in for Caesarean section
7 (.hh) and I thought to myself, “Right, go on, >take the upper hand<,
8 ask if you can go in, come on, you've got to get over this fear of Theatre.”
9 The Theatre REALLY does frighten me.
10 I have said before, I think. It's not just the operation itself,
11 it's that everybody seems to know what they're doing except me.
12 >I mean, the midwife doesn't actually have that much to do<,
13 but (1.2) what she does is important, and I always feel like all eyes are on you.
14 There are so many people in a Theatre (•).
15 This is when you really start to feel you're inexperienced.
16 >You feel you're totally out of your depth<.
17 I went in with (*) another midwife I've never worked with before –
18 a midwife with a lot of years experience behind her (2.0).
19 I was quite surprised she didn't ask me (*)
20 at what sort of point of my training I was in.
21 I felt she just went in to Theatre (*) with me as an observer,
22 >and that wasn't really what I was after<(tt), I mean
23 I've observed before and I <really wanted to run through>(•) exactly
24 >what was expected of a midwife in Theatre<
(Student A, audio-diary, p 5).

Linkage of past memories with current experience (Implicit learning) Eraut (2000)

In terms of emotions impacting on the learning, this student used the term 'feels' six times over two selected quotes, for example, "...you feel like you don't belong".
The student midwife also described a feeling of intruding and expands on this possible exclusion by use of the metaphor, "like a fish out of water". In lines 19 to 23 of the above discourse, the student vocalises the disempowerment which arises from the mentor overlooking the zone of proximal development, ignoring the necessity to brief the student, focusing instead on expectations of the midwife's role in a theatre situation.

The importance of non-verbal communication between mentor and student was highlighted. This is particularly noticeable in the operating theatre situation because of use of theatre masks. The wearing of masks means that often, communication may rely only on eye contact and body language. The student described being "pushed in" towards the operating table. This suggests some victim language by the student combined with a lack of assertiveness on her behalf.
Fear and ‘Episodic Memory’ (Eraut 2000)
The student midwife used strong language to describe her inherent fear of impending disaster in the theatre. For example, “frightens” and “terrifies me”. The verbalised fear is important to acknowledge as this student, later in her narrative, described her experience with babies born in poor condition at Caesarean section: “I had a couple of babies with very low Apgars”.

The student described how she tried to prepare herself mentally and verbalised the need to override the feelings of fear, saying: “You’ve got to get over this fear of theatre”.

Multiple anxieties were not voiced, for example, there was a stated need for continuity of mentor in the student’s diary, leading to a sense of vulnerability for the student. This was rarely communicated to the mentor. In stating that she wanted to ‘take the upper hand’ there is an implication that Student A wanted to establish a locus of control. However, the word “frighten” is repeated in the discourse. In discourse analysis, repetition is relevant.

Crowded Contexts (Eraut 2000)
In saying “..except me...all eyes are on you” the student revealed her self-absorption and the feeling of uncomfortable exposure in an operating theatre. The feeling of being overwhelmed was illustrated in her description of there being “so many people”. The student then used another metaphor, being out of her depth, to possibly reiterate the sense of drowning. There are links with feeling “like a fish out of water” (Froggatt 1998).

---

**Student A, continued**

1. She [my mentor] also said that we needed to take a few babies.
2. *Again*, something that absolutely terrifies me.
3. I have had a couple of babies with very low Apgars.
4. I mean, <it really is frightening>.
5. I watch the midwives and they have such confidence, and they’re so fast.
6. and you do (*) stand there thinking (*) Can I ever do this?
7. ‘Will I ever be able to do this?’
8. [My mentor] promises that before I finish this (*) term, we will have a go
9. at taking some babies .hh
10. I don’t know how I feel about that.
11. I don’t know whether I’m happy (*) or (*) terrif(h)ed (heh)
   (Student A, audio-diary, p2).
Unconscious effects of previous experiences (Implicit learning) Eraut (2000)

The student described the confident efficiency of midwives in action. Trying to blend into the background, she observed the multi-tasking of qualified midwifery staff and questioned her ability to ‘perform’ in a theatre situation with any confidence. One could surmise that the feeling of being terrified and frightened was blocking her learning of the basic skills. She rhetorically asked, in an almost despairing way “Will I ever be able to do this?” The fact that the student said in line 6 “You stand there thinking ‘can I ever do this?’” suggests that when the midwife was modelling efficiency in a clinical situation the student had a deliberate pause prior to emulating the midwife. Not knowing whether she was happy or terrified is revealing in that there was a realisation (and marked relief) that the midwife mentor had noticed her anxiety and was willing to address it by offering experience and specific practising of skills. Lines 8 and 9 reveal the scaffolding being planned by the mentor (Cope et al., 2000, Spouse, 2003). The verbal ‘promise’ by the mentor to include the student in ‘taking’ babies in theatre provided an informal deadline for the student to work towards and indicated that the zone of proximal development was being attended to. Whilst this suggests inter-mental processes, in line 10, the student reveals her intra-mental processes in stating “I don’t know whether I’m happy or terrified”. The student acknowledged that as part of the professional role of the midwife, the task of ‘taking’ babies in theatre was inevitable but evidently required fuller and franker discussions and debriefing with the mentor. Again, all agreements were apparently verbal and unwritten.

Awareness through ‘Telling’ (Eraut 2000)

The language the student used throughout her audio-diary illuminates the painful element of some learning. Even with a supportive mentor, the student, to some extent, was agonising over events and revealed much through her repetition of emotions related to fear. What the student described in later diary entries, was how it feels to overcome the fear and the depth of learning, both personal and professional, which ensued.

Student A continued:

1  ↑ As I got the notes ready and (‘) >name bands and everything<,
2  ↑ I watched [my mentor] with the twoman.
3  ↑ She reassured her and (‘) <she was just really good with the couple itself
and I wondered if I was like that.
I hoped I was or I hoped that with [her] influence I would be.
She was just so good with them,
knowing the right things to say,
caring them, (·)
getting them ready for what was coming,
explaining everything to them.
I felt really detached.
I thought “I know I have my part to play”
> we’d done a bit of a role reversal again<(2.1).
At the beginning of the stint on Labour Ward
I always found I was (·) the one comforting the lady,
talking away and [my mentor] (·) was in the background (·),
> getting on with what needed to be done,
and then she’d pop over and have a chat with the lady,
ALWAYS chat with the lady and her partner.
I wonder sometimes how she does it (both),
because sometimes there’s so much to do
How does she manage that balance between (·) reassurance (0.5) and compassion
and (·) record-keeping, um (·) medical observations.
> It all just seems sometimes so much to do<,
so much to remember.
So [my mentor], after reassuring the lady, (·) she came over to my side,
((tape finishes))
we did a quick check (list
> to check that we’d done everything we needed to<...
(Student A, audio-diary, p9)

The above extract provides an excellent example of the positive effect of role modelling on the student midwife. The student eloquently described the impressions she gained from, for example, observing the midwife prepare a couple for “what was coming”, acknowledging the need for compassion whilst simultaneously providing safe, woman-centred care. Although the student seemed almost overwhelmed by the multi-tasking of the mentor, (describing her feeling of detachment) she, herself was multi-tasking by closely observing the midwife whilst completing notes and the baby’s name bands. In stating “I know I have my part to play” (line 12), the student describes the discomfort which can emerge from experiencing the reality of peripheral participation (Lave and Wenger, 1991). The subtle techniques used by the midwife (for example, reversing roles) had not gone unnoticed by the student and seemed to add to her admiration of the clinical teaching ability of the midwife mentor. This is an example of scaffolding techniques used in the cognitive apprenticeship model. Interestingly, the student
recorded details such as when the midwife mentor and she worked side by side, engaged in an activity, as opposed to attending to separate tasks. Again, questions such as that posed by the student in line 22: “How does she manage that balance...?” suggests the inter-mental potential which could have reassured the student, and assisted in this student’s confidence building and smoother transition into the challenging role.

The following summary box is presented to provide an overview of Student A’s experiential learning and uses literature to show the usefulness of defining non-formal elements of learning, through examining the linguistic features in the student’s discourses.

### Summary of Student A: Operating theatre discourse

<table>
<thead>
<tr>
<th>Time of stimulus</th>
<th>Learning (Measured using Eraut’s learning typology)</th>
<th>Language used to describe experience</th>
<th>Perceived mediation</th>
<th>Outcome (Measured using Vygotsky’s learning theories)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current experience</td>
<td>Implicit-</td>
<td>Metaphors</td>
<td>Role modelling</td>
<td>Peripheral to more central position of student</td>
</tr>
<tr>
<td></td>
<td>A selection from experience enters the memory</td>
<td>Language of fear</td>
<td>Role reversal</td>
<td>Partially inter-mental learning</td>
</tr>
<tr>
<td></td>
<td></td>
<td>‘Hiding’ space occupied in the</td>
<td>Some scaffolding</td>
<td>Knowing-in-waiting</td>
</tr>
<tr>
<td></td>
<td></td>
<td>operating theatre-nursing,</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>midwifery and medical domain</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The next student was studying for a midwifery degree. She was previously a registered nurse so was undertaking a shortened programme. At the point of data collection, she was six months into an 18 month programme. Her placement was a postnatal ward in a small rural hospital.
**Student N**

1. It’s the first time I’ve been to the Neonatal Unit and I found it quite daunting. Having been a nurse before.
2. I’ve looked after adults who’ve been sedated and ventilated.
3. ‘But actually going and seeing the baby’, who (1.0) is quite a big baby (ten pounds plus so many ounces)
4. and knowing that this is quite a big baby ()
5. and knowing that it’s term gestation (.hh).
6. I don’t know how I’d feel if, if I was looking after (’) a smaller baby.
7. I just really felt for the mum and I could appreciate where maybe the family are coming from
8. when they are faced with something like this.
9. It’s been (■) quite stressful for me today, I think,
10. because I’ve not seen a baby that’s been ventilated before’.hh
11. The mum herself has been, been very open towards me and actually invited me to go down to Special Care .hh with her (1.5).
12. And, but prior to that, I felt I needed the knowledge of really what had happened
13. >and spent some time hh with my mentor reading through her notes<,
14. looking at the traces during the birth;
15. >trying to work out where things went so drastically wrong<

(Student N, day 1, audio-diary, p1)

A selection from experience enters the memory (Implicit Learning) Eraut (2000)

The words “daunting” and “stressful” demonstrate that the lack of preparation for the culture of the neonatal unit, and for the appearance of the sick baby, affected her learning. The student demonstrated her empathy with the mother and family and attempted to mask her true emotions in the face of professionalism.

Student N revealed her frustration for the lack of explanation as to why such a large baby had become sick. Her use of the words, “drastically wrong” suggest that she felt disturbed and, to some extent, had failed despite trying to find an explanation in the records. It seems that her relationship with the mentor was based on professional behaviour as the student did not record the nature of her feelings with the mentor.

The notes were, perhaps, a welcome distraction from the student’s emotional work.

In line 8, the student internalises her uncertainty:

“I don’t know how I’d feel if I was looking after a smaller baby”. This subject has possibilities for being an excellent discussion topic with the mentor and could have prepared the student for future episodes of care in this intensive environment. The
mentor did, however, appear to use tools to scaffold the student’s learning, such as client notes and CTG traces collated and recorded during the woman’s labour. This is an example of responsive mentoring but could have led to deeper learning if the student’s anxieties and intra-mental processes had been attended to (Vygotsky, 1978).

**Student N continued**

1. ....hh I think I’ve learnt a lot from today (1.2).
2. *<Not just about the mechanism of breech delivery>*
3. um but also about what parents face when their babies are on NNU [neonatal unit]-
4. how scary it must be for them.
5. I mean, I have no emotional (*) ties to this, to this baby um
6. ‘and yet I found it quite upsetting when I went in there today’.
7. I hope that (*) I’m going to be able to build (*) on (*) the support
8. and the psychological needs that I’m able to give to women (1.5).
9. And even though I maybe felt a little bit out of my depth
10. (because I’m not able to fulfil these (*) psychological needs)
11. ‘and I’m not able to give the full support to the parents that I want to
give’.hh,
12. I felt that I have been very well supported
13. And (*) my mentor <has been> very involved ‘with this situation as well’...
14. >And I feel that it is going to influence my future practice in a positive way<.
   (Student N, audio-diary, p 3)


Like the previous student, this student midwife also felt out of her depth but was able to rationalise her emotions in a rather more controlled way. The language used is not so raw and is presented in complete sentences, which are longer. It is interesting that this student speaks of her “emotional” ties to the baby but refers to the “psychological needs” of the woman. This is perhaps related to the perceived need for the student midwife to appear professional and also a means for her to linguistically gain some distance between herself, the woman and family.

**Emergent learning (Eraut 2000)**

It would seem that the explicit learning for the student was defined as being exposed to the mechanism of breech delivery (demanding knowledge of complex birth processes as well as applied anatomy and physiology). However, the student focused on the psychological state of the woman, with the implication that both she and the woman
were feeling vulnerable. For example the neonatal unit was “scary” for them (the parents) but was merely “quite upsetting” for her.

In terms of non-formal learning, the student describes the value of observation of the mentor, who appeared to deal sensitively in her communication with the parents of the sick baby. The student preludes her physical and emotional withdrawal from the situation by suggesting fear of being a little bit out of her depth in feeling unable to provide ‘full’ support to the mother. This language (for example, in lines 9 and 10) is an example of indwelling (Polanyi, 1967), which indicates intra-mental processes. Through active involvement in the care (line 13), the mentor does seem to be demonstrating cognitive apprenticeship techniques, principally modelling sensitive care to the student midwife (Cope et al, 2000).

Summary of Student N: Special Care Baby Unit discourse

<table>
<thead>
<tr>
<th>Time stimulus</th>
<th>Learning (Measured using Eraut’s learning typology)</th>
<th>Language used to describe experience and ‘space’</th>
<th>Perceived mediation</th>
<th>Outcome (Measured using Vygotsky’s learning theories)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current experience</td>
<td>Reactive- Recognition of learning opportunities Emergent learning</td>
<td>Describes wider culture of the neonatal unit ‘Indwelling’ (Polanyi 1967) Empathy ‘Transition’ space occupied within the nursing and midwifery domain</td>
<td>Tools eg CTG traces and case notes. Observation of the baby and regular discussions. Doll and pelvis to demonstrate breech mechanisms. Role modelling and direct involvement of the mentor.</td>
<td>Partially inter­mental learning Mainly intra­mental Knowing-in­waiting</td>
</tr>
</tbody>
</table>

Later in Student N’s audio-diary, there is a description of a woman’s care in delivery suite. The woman’s labour had been induced and the labour had progress but there was
apparently a delay in the second stage of labour. The student narrates the reactions of the parents when they are informed by a doctor that a ventouse extraction is necessary.

The mentor, doctor and student were in the delivery room:

**Student N**

1  .hh The lady's husband seemed very (·) baffled by it all
2  and almost shell-shocked, I would say...
3  I didn't really know whether to speak up
4  and say to the doctor...'look, no, no through this again.
5  You haven't said it very clearly', um, (1.4) (tt).
6  Or even for my mentor to explain...
7  I hope I have learnt from this particular situation to speak up a bit more
   (Student N, audio-diary, p16)

**Recognition of learning opportunities (Reactive Learning)**

The student describes some confusion in her role as she seems to want to be an advocate for the woman (and her partner) during a difficult decision-making episode. As with other student midwives in this sample, the observation role and peripheral participation create tensions. The student expresses disappointment in the Doctor's explanations and, more importantly, in the mentor's lack of intervention but seems to feel powerless to step in or even to "speak up". It would appear that the student was the only person in the delivery room to note the husband's "shell-shocked" state.

In terms of learning, this evidently remained in a reactive mode, due to a lack of tools being used by the midwife, including mediation of learning by both verbal and non-verbal means. Had a reflection or debriefing session been planned in by the mentor, the student may have enhanced her learning about ventouse extractions and, more specifically, about the advocacy role of the midwife.

Student B was also studying on a Diploma in Midwifery and was at the beginning of Year 3. Her placement was a hospital postnatal ward.

**Student B**

1  ..um.. li:ke I say, when she'd been on the ward about an hour
   I felt her uterus
2  and it was just at the umbil:icus.
3  It felt quite contracted
but it felt different to anything I’d ever felt before.
Erm (‘) there was no other ‘signs that anything was wrong.
I asked...I went to [my mentor].
I said (‘) will you have a feel of (‘) this girl’s uterus?
It doesn’t feel <quite right>..
It was some time before (‘) this girl’s uterus was checked by the midwife
(Student B, audio-diary, p 4)

A selection from experience enters the memory (Implicit Learning) Eraut (2000)
On tape, the student sounds generally hesitant, with many ‘erms’ preceding quite
controlled sentences, often lacking emotion. The selection of language shows the
mechanisms the student is using in her attempt to distance herself. In many ways, the
human interaction is lacking, with the woman, the baby and with the mentor.

Implicit monitoring (Eraut 2000)
With reference to the palpation of the uterus, in stating “it felt different”, the student
demonstrates (to some extent) her intuitive or implicit knowing (Reber, 1967). Her
information-giving to the mentor was evidently supposed to relay the panic she was
experiencing. However, in stating that the uterus didn’t feel “quite right” she was
verbalising her implicit knowing but seemed a little apologetic in her verbal interaction
with the midwife mentor. There was an underplaying of the observed reality of the
situation, although the student disclosed that there were no other “signs” of anything
being “wrong”. Although the student describes her search for these signs, she does not
state explicitly which specific signs she had identified as being important in recognising
postpartum haemorrhage.

Student B

1. I was sat feeding this baby and the girl’s obs was fine.
2. And all of a sudden this girl just went >white as a sheet<
3. and she went into shock...
4. and (‘) quite literally ALL HELL broke lose.
5. She ended up as an obstetric emergency in theatre...
6. ‘I learnt a lot from this experience’..
7. to keep a close eye on ur placenta t’praevias..
8. I don’t think I’d mistake that uterus again .hh...
9. I knew something just wasn’t quite right
(Student B, audio-diary, p 4)
Recognition of learning opportunities (Reactive Learning) Eraut (2000)

The second part of the quote suggests a change in language used by the student midwife. She conceals much emotion in use of the term "obstetric emergency" which is safe language, saying she learnt "a lot". The contrast with the previous students' language to describe their own fears and gut reactions to situations is stark. The student sounded tired and quite angry on the audio-tape. The final sentence may be a veiled criticism of the mentor, displaying inherent resentment of the hierarchy of practice. It could be suggested that the student also harboured some degree of guilt, although this is not explicitly vocalised.

The metaphor, "white as a sheet" to describe the sudden change in condition of the woman is a simplistic description but conveys the student midwife's on-the-spot observations and subsequent reactions. In using the word "hell" the student is perhaps displaying her shock. The fact that all hell "broke loose" portrays the suddenness of the lack of control over the situation. Lines 6 and 7 in the above extract, demonstrate the inter-mental potential for the student's learning, had an in-depth reflective discussion or debriefing following this incident occurred (Gibbs, 2004).

Summary of Student B: Postpartum haemorrhage discourse (Postnatal ward)

<table>
<thead>
<tr>
<th>Time of stimulus</th>
<th>Learning (Measured using Eraut's learning typology)</th>
<th>Language used to describe experience and 'space'</th>
<th>Perceived mediation</th>
<th>Outcome (Measured using Vygotsky's learning theories)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current experience, with reference to future behaviour</td>
<td>Implicit--Influence of episodic memory</td>
<td>Uncertainty Shock Hesitation 'Indwelling' (Polanyi 1967) 'Hiding' space occupied in the main but student was forced into the 'intimate' space-within the shared domain</td>
<td>Mediation through mentorship was perceived as occurring remotely It was apparently delayed Role modelling reported as minimal</td>
<td>Partially inter-mental learning Mainly intramental due to lack of debriefing or 'impactful' feedback (Gibbs 2004) Knowing-in-waiting</td>
</tr>
</tbody>
</table>
Other students describe the lack of preparation for obstetric emergencies:

The following diary extract is from a Diploma student midwife nearing the end of her second year. Her placement was delivery suite:

Student D

1 I've been phased today by something that happened ur (1.0)...  
2 We ( ) had a young girl come in ... at 36 weeks  
3 saying that she'd not had any fetal movements.  
4 So um (2.0) as we were incredibly busy, [my mentor] asked me to ‘admit her’  
5 (which I did); usual observations, palpation.  
6 >I actually felt the baby move while I was palpating<  
7 and got the, got to feel where the baby was moving...  
8 I put the ur woman straight onto the monitor...  
9 <and (1.5) the baby was ( ) jumping about -nice reactive trace; good variability>.

Selection of experience enters the memory (Implicit learning) Eraut (2000)
The first part of this extract shows the usefulness of narrative for providing contextual information on the condition of the mother and fetus. The student warns the listener that the event involving a “young girl” led to her describing being “phased” by the ensuing events (line 1). It is important to note that the background information supplied illustrates a backdrop of all observations being “normal” although the gestation is recorded as being 36 weeks. The student midwife goes on to describe how her “initiative” led her to use her clinical judgement (Ling and Luker, 2000) and adjust the continuation time of the CTG:

Student D continued

1 So, a beautiful, optimal CTG. Um .All of a sudden ( ) the ( ) woman said,  
2 “Oh! I’ve had a couple of tightenings”  
3 It didn’t look like a Braxton Hicks on the CTG so I um .hh well, say initiative  
4 ‘I suppose it was a gut feeling really’-  
5 I said “let’s leave you ton there for another ten minutes”.  
6 So as I was about to walk out of the door ( ) the baby’s ( ) heart beat dropped  
7 from about 140. Just kept dropping and dropping  
8 ‘til it got to about seventy ( )nine.  
9 [My mentor] was talking to someone ...  
10 and ( ) as soon as [she] came in, saw that ( ) and ur tried to ur  
11 listen with a Pinard-  
12 >sent me straight out to get the Reg<.
Selection of experience enters the memory (Implicit learning) Eraut (2000)

The student describes quite a traumatic experience for her. The speech at the beginning of the narrative seems quite organised but becomes progressively more staccato until the word “Reg” (line 10). Some ‘implicit monitoring’ (Eraut 2000) by the student is evident, for example, “I suppose it was a gut feeling” but this student demonstrates development in thinking and use of her prior knowledge in stating: “It didn’t look like a Braxton Hicks on the CTG” (line 3).

Later in her narrative, the student records her anxieties:

Student D

1. So (•) about an hour later >this lady was delivered by Caesarean §section<.
2. But (•) what worries me is, if it had been 30 seconds earlier,
3. the woman wouldn’t have had that pain (•) registering on the CTG-
4. >I would have taken her off< The CTG would have looked fine.
5. She would have gone home.
6. We may even have had a stillbirth on our hands tonight or tomorrow
7. ...<I don’t know>...
8. “But it’s still on my mind”...
10. I did speak to her very briefly about it
11. but I don’t think she realised just how much it’s (•) affected me.
12. Anyway, that’s something I’ve learnt today...
13. “How gut feeling is really something you have to develop...”
14. “In this ur career”
   (Student midwife D, audio-diary).

Recognition of learning opportunities (Reactive learning) (Eraut 2000)

On the audio-tape, the student sighs as she says “I don’t know”. As with the previous student (Student B), Student D articulates some of the challenges of being supernumerary.

The student records the internal agonising about what could have gone wrong with the above episode, expressing that the outcome could have been a stillbirth. The student implies that the key learning from this event was acknowledgement of pain registering on the CTG (confirming the woman’s expression of abdominal pain). The brief interlude with the mentor seems not to have been effective in assisting this student midwife to move out of a reactive learning mode. It would appear that the mentor/student contact time
was inadequate, resulting in a degree of confusion for the student and unresolved emotional issues linked with this emergency Caesarean section.

### Summary of Student D: Fetal distress discourse (labour ward)

<table>
<thead>
<tr>
<th>Time of stimulus</th>
<th>Learning (Measured using Eraut's learning typology)</th>
<th>Language used to describe experience and ‘space’</th>
<th>Perceived mediation</th>
<th>Outcome (Measured using Vygotsky’s learning theories)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current experience</td>
<td><em>implicit−</em> A selection from experience enters the memory. (Influence of episodic memory)</td>
<td>Uncertainty</td>
<td>Role modelling was minimal, although a Pinard stethoscope was apparently used</td>
<td>Mainly intramental due to lack of contact time with mentor</td>
</tr>
<tr>
<td></td>
<td><strong>Shock</strong> eg ‘phased’ ‘gut’ ‘Interiorisation’ (Polanyi 1967)</td>
<td>‘Interiorisation’ was minimal, although a Pinard stethoscope was apparently used</td>
<td>Lack of debriefing following this emergency</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Relief</td>
<td>‘Transition’ space occupied in the main–but student was forced into the ‘intimate’ space–within the shared domain</td>
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</table>

The following student midwife’s diary extract illustrates one student’s sensitive perceptions of a woman’s postnatal psychological state. The student also indicates that she felt intuitively that something was wrong, this time, in a woman’s home. The student was in the second year completing a community placement. The extract portrays some of the tensions which arise for second year student midwives when they start to perform postnatal visits on their own.

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177
Student G

1 The last lady I went to visit...she just seemed very um STRESSED out...
2 >She wanted desperately to go out so she was on the edge of her seat<
3 and I just (\textquoteleft\textquoteleft) I don't know, there was something that,
   that didn't lie quite right with me where
4 >She almost reminded me of a ticking time bomb<
5 Where she was, she was just waiting to explode (\textquoteleft\textquoteleft)(tt).
6 I don't know how you sort of take that.
7 'You have a sixth sense sometimes that something's not quite right'.
8 Anyway, I left her and I documented everything,
9 apart from this sort of feeling, this gut feeling that I had.
(Student midwife G, 2\textsuperscript{nd} year, audio-diary, 9\textsuperscript{th} entry).

Selection of experience enters the memory (Implicit learning) Eraut (2000)

In a similar vein to the previous student, who expressed some confusion by saying "I don't know" (regarding serious possibilities which could have occurred), this student reflects on one woman's "stressed out" demeanour and states "I don't know how you take that" (line 6). In stating that she was unable to document the "gut feeling" she experienced (line 9), the student confirms the difficulties inherent in articulating more tacit components of knowledge. The student goes on to describe her reactions on visiting the same woman with her mentor:

Student G

1 >And the other lady we went back to<...
2 .hh I just wasn't comfortable leaving...
3 >but she wasn't telling us any signs that she was struggling<...
4 <but there was something more>...
5 um (\textquoteleft\textquoteleft) whether there's some kind of (\textquoteleft\textquoteleft) um depressive disorder
6 or something that could be brewing there.
7 She really does look to me as though she's a ticking \textit{time} bomb...
8 um .hh but there's nothing you could \textit{talk} about..
(Student midwife G, 2\textsuperscript{nd} year, audio-diary, p 25).

Selection of experience enters the memory (Implicit learning) Eraut (2000)

The student midwife repeats the metaphor of a "ticking time bomb" and, in doing this, seems to be reinforcing her fear of the woman becoming psychotic. The fact that she felt a depressive disorder could be "brewing" is indicative of the student being fearful of a mental illness bubbling under the surface. This links with the student's previous narrative, where she describes the woman as "waiting to explode". The student is obviously waiting for the woman to show the qualified midwife an outward sign of
“struggling” so that a label could be attached, providing something “you could talk about” (or formally diagnose). With so little discussion with the mentor about the woman’s adaptation to motherhood, the learning cycle is incomplete and learning remains partial.

**Episodic memory** (Eraut 2000)

The student appeared to be focused on one specific episode and evidently needed to be debriefed appropriately in order to be able to use this experience in a positive way for future meaningful learning.

<table>
<thead>
<tr>
<th>Time of stimulus</th>
<th>Learning (Measured using Eraut’s learning typology)</th>
<th>Language used to describe experience and ‘space’</th>
<th>Perceived mediation</th>
<th>Outcome (Measured using Vygotsky’s learning theories)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current experience</td>
<td><em>Implicit</em>—A selection from experience enters the memory. (Influence of episodic memory)</td>
<td>Uncertainty Woman is described as a ‘struggling’ and a ‘time bomb’ Student draws on her ‘sixth sense’ ‘Interiorisation’ (Polanyi 1967) Movement between ‘Transition’ space and ‘intimate’ space-in the midwifery and public domain</td>
<td>Scaffolded learning appears to be absent due to lack of discussion between mentor and student No specific tools used to enhance the learning</td>
<td>Mainly intra-mental due to lack of contact time, debriefing and reflection on case with mentor <em>Knowing-in-waiting</em></td>
</tr>
</tbody>
</table>

In contrast to the above student, the next extract provides an example of medicalised language, seemingly lacking in insightful observations of a woman’s psychological state when admitted to a hospital antenatal ward with a ‘high risk’ condition in her pregnancy.
The student was in the first placement in the second year of a three year diploma programme.

Student F

1 urm I ended up taking over the care of [two side rooms] today um (■)
2 Started off again by discussing what I was going to do with these women
3 ... ur with my mentor.
4 One lady, who was cholestasis ((sniff)),
5 I went and repeated her LFTs [liver function tests] urm.
6 >I am getting quite confident with my bloods now<.
7 >I am quite happy taking bloods’...
8 >Done a computerised CTG on her<.
9 That was great-so () quite happy with her care.
10 She was well and baby was moving well
11...Just informed my mentor of what I had done.

(Student midwife F, audio-diary, p 20)

The student suggests at the opening of this discourse, that she was “taking over the care” in two bays. As a student in the early part of the second year of a programme, this was possibly quite overwhelming. How the student seems to compensate is to speak in a rather functional manner, so appearing efficient and in control. It must be remembered that cholestasis is a potentially dangerous condition, with high maternal and infant morbidity.

Routinisation (Eraut 2000)
A pattern of medicalised terms runs through this narrative, for example, the student discusses what she will “do” with the women and labels the woman ‘cholestasis’. This infers a lack of individualised woman-centred care. Additionally, the student appears to be running through a checklist of tasks, which have provided a shield for avoiding extremely sensitive communication needs of the woman. Performing a computerised CTG recording of the fetus means the woman could theoretically be left on her own as CTG traces can be monitored externally from the central desk in larger obstetric units.

In merely “informing” her mentor what she had “done” the experiential aspects of caring for a woman with a challenging condition were not divulged. The mentor therefore had little to work with so learning for the student remained in a reactive mode. In saying “Just informed my mentor what I had done” (line 11) there is a suggestion that ‘fading’ had
taken place. However, as the preceding stages of the cognitive apprenticeship model had not explicitly taken place (Collins et al., 1991), this was probably an example of inappropriate fading by the mentor.

The following audio-diary extracts also portray the language some students use to describe their involvement with women having induction of labour or terminations of pregnancy (in these cases, at twenty weeks gestation and beyond).

**Student F**

1 Urm, my lady that was in for the (*) **<TOP>** (termination of pregnancy)
2 ...she did not deliver for us. But we were just popping in and **out**
3 and making sure she was **okay**.
4 >My mentor went through the procedure with me<
5 'h what happens (*) when women come in for ur termination
6 for an <abnormality> ((sniff))
7 the procedure, the actual book and what bloods need doing...
8 I learnt (*) a little bit about that, "although there is an awful lot to take in".hh
9 ...another day...I shall possibly urm copy the "procedure down".

(Student midwife F, audio-diary p 5)

**Incidental noting of opinions, impressions (Reactive learning)**

Through this entire discourse, the lack of human contact described in a highly charged experience (for all involved) is evident. What stands out is the emphasis on "procedure" for the student midwife, which is mentioned three times in eight lines. There is the possibility that by merely "popping in", the student can escape the difficult questions which women (and partners) are likely to ask during the process of a late termination of pregnancy.

**Routinisation (Eraut 2000)**

The student midwife appeared to demonstrate containment of her own emotions by focusing on the procedure, the book and maternal blood tests. The student implied that there was so much to "take in" that there was no time for listening to the woman. The routine was so central for this student that learning may have been blocked and learning was reduced to copying down the procedure.

The following student midwife conveys her impressions and learning which emerged from caring for two women. One was admitted for an induction of labour and the other
was admitted for late termination of pregnancy. This student refers to the "paperwork" and "protocol" as being the focus for the care. This narrative presents examples of the language used around both termination of pregnancy and induction of labour.

Student C

1 Um, we had two ladies to look after today.
   One (•) was (•) a lady having an induction .hh,
2 which gave me the opportunity to go through the induction process again.
3 And also um, (tt) draw up things like ur Syntocinon...which has been good.
4 Because then I can sort of .hh do most of it by myself...
5 We didn't really spend too much time um with >this particular lady<.
6 [My mentor] was sort of quite in <demand today>.
7 >She was sort of um flitting in and out<.
(Student C, audio-diary, 1st entry)

Brief, near-spontaneous reflection on past episodes, communications, events, experiences (Reactive learning) Eraut (2000)
The student midwife alludes to the midwife mentor "flitting in and out" of the room, which is similar practice to the previous mentor who was "popping in". The language suggests avoidance by the student, who was probably modelling the mentor's behaviour.
The overarching excuse was that the mentor was "in demand". Emphasis, again, appears to be task-driven (for example, drawing up Syntocinon) rather than providing time-consuming psychological support for the woman. It is a point of interest that analgesia for induction of labour and late termination of pregnancy is not spoken about in this context.

The student midwife goes on to describe her second "case", alluding to her relationship with the woman in one word; "involvement" but with no description of what that involvement entailed.

Student C

1 The main (tt) case we had was a ur girl coming in for termination of pregnancy
2 for (•) severe fetal abnormalities...
3 Y'know, >I think it's something you need to get to grips with as a midwife
4 and I was quite happy to look after her<
5 She was quite well together...
6 You know, I wasn't bothered about looking after her...
7 ....On the educational side of it, I did get to (•) see all of the paperwork
8 and the involvement, you know,
9 everything that goes into procedures like (•) 'terminations'.

182
The student indicated that learning was achieved through seeing the "paperwork and involvement" but noted this in a somewhat superficial manner. She spoke almost with gritted teeth, when suggesting that terminations are "something you need to get to grips with" to be a midwife. Despite this, the student described an element of being overwhelmed in line 7: "there's so much to do". The focus on the paperwork again mitigates against learning moving into a more deliberative domain (Eraut, 2000).

The student midwife describes more strategies which could be interpreted as avoidance techniques, to help cope with such a highly charged situation:

<table>
<thead>
<tr>
<th>Student C</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 And I feel sometimes that, you know,</td>
</tr>
<tr>
<td>2 you can't .. spend as much time with the woman as you'd probably want to</td>
</tr>
<tr>
<td>3 because you're so busy sorting out paperwork and um getting the protocol-</td>
</tr>
<tr>
<td>4 getting all the bloods which need taking.</td>
</tr>
<tr>
<td>5 &gt;Which was a good learning experience</td>
</tr>
<tr>
<td>6 because I did go through it with [my mentor]&lt;.</td>
</tr>
<tr>
<td>7 And we you know, sorted out the blood bottles</td>
</tr>
<tr>
<td>8 &quot;and I went off and y'know, to collect a load of things, which was good&quot;...</td>
</tr>
<tr>
<td>9 And, um, unfortunate really that we didn't get to see the, see the thing throught.</td>
</tr>
</tbody>
</table>

Brief, near-spontaneous reflection on past episodes, communications, events, experiences (Reactive learning) Eraut (2000)
The student midwife appears to be struggling with external tensions arising from being 'with' a woman in a normal labour situation and providing midwifery care in such a different context. Rather than have an in-depth conversation with the student about the challenges of providing excellent care in this situation, the mentor is reported to have sent the student off "to collect a load of things". This workload approach was found by Melia (1984).

Routinisation (Eraut 2000)
The mentor seems to be leading the care by focusing on the "bloods" and blood bottles although the student does suggest that the mentor "went through" the procedure for
termination of pregnancy. It would be interesting to know if any detailed dialogue on the subject occurred whilst the mentor and student "sorted out" the blood bottles. It would appear that the pair were working rather remotely from the woman, finding a safe haven in performing clinical tasks such as labelling blood bottles for pathology.

The student used interesting language by stating that it was unfortunate not to have seen "the thing" through. This may have been a mask for the uncertainty which often clouds the learning in such emotionally charged situations (Bion 1962).

### Summary of Students F and C: Late termination of pregnancy discourse (delivery suite)

<table>
<thead>
<tr>
<th>Time of stimulus</th>
<th>Learning (Measured using Eraut's learning typology)</th>
<th>Language used to describe experience and 'space'</th>
<th>Perceived mediation</th>
<th>Outcome (Measured using Vygotsky's learning theories)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current experience</td>
<td>Reactive-</td>
<td>Functional language used eg &quot;procedure&quot; and &quot;process&quot;</td>
<td>Partial mediation occurs through use of 'paperwork' but a lack of specific tools used to enhance the learning</td>
<td>Mainly intra-mental due to lack of contact time, debriefing and reflective conversations with mentor.</td>
</tr>
<tr>
<td></td>
<td>Incidental noting of opinions and impressions</td>
<td>Language of 'containment' (Bion 1962) 'Intimate' space is partially occupied within the midwifery and public domain</td>
<td>Lack of sensitive communication role modelled</td>
<td>Incomplete/fragmented learning</td>
</tr>
<tr>
<td></td>
<td></td>
<td>'Intimate' Lack of space is sensitive partially communication occupied role modelled within the midwifery and public domain</td>
<td>Knowing-in-waiting</td>
<td></td>
</tr>
</tbody>
</table>

184
The next student, Student B had her placement on a postnatal ward.

Student B

1 I was giving advice to the lady who was breastfeeding ((clears throat)).
2 She was (') a little unsure because she was a primip<.
3 And (') she was getting a little bit panicky because the baby wouldn't go on...
4 She kept asking could the baby have (') a bottle feed (2.0)
5 And (2.5) although I know (') you should keep persevering
6 >I was a little bit tempted to give in to her<.
7 We were trying for about an hour and a half to feed this baby.
8 >We had to keep taking it off the breast to settle it<
9 Because it was just (1.8) getting a little bit 'distraught'.
10 I was wondering whether to just give it a little bit of a cup feed (2)
11 Just to settle it.
12 I asked [my mentor's] advice and she said (') just try and persevere.
13 But I was a little unsure of what I was doing.
14 >Urm although I do have a good knowledge of breastfeeding
15 And (') I've got my own experience as well of breastfeeding<.
16 (3.0) I think if I hadn't have had some good support from ..my mentor,
17 I would have just given that baby a cup feed.
(Student midwife B, audio-diary, p2).


This discourse is punctuated by some significant pauses in the speech. The throat-clearing and longer pauses seem to precede consideration of the words used. The student midwife explains how she justified her actions, for example in considering giving the baby a cup feed "just to settle it". With a "panicky" mother and a "distraught" baby, the student midwife evidently felt justified in considering giving the baby a "little bit" of a cup feed. The student expresses her lack of confidence in this area by saying: "..I was a little unsure of what I was doing".

Student B continued

1 She [the mentor] reassured me to keep trying
2 and I (') in turn, reassured the mother
3 and we did get this baby to have a good feed.
4 I felt like this was a good experience (') for me
5 and (') it was a good learning outcome for me
6 because if I hadn't have had that support and the advice
7 that I was getting from my mentor,
8 >I would have actually given that baby a top-up feed<.
9 And I know ((clears throat)),
10 looking at the theory (0.5) and (') looking at the practicalities (urm)
of getting that mother to feed continually (1.4)
12 the best thing (■) for that mother and baby was to actually persevere.
13 Urm, on reflection (■) we got a good outcome (1.5)
14 because we both got some good advice.
(Student midwife B, audio-diary)

Brief, near-spontaneous reflection on past episodes, communications, events, experiences (Reactive learning) Eraut (2000)
The student describes gratitude for the mentor’s advice and reassurance during a clinical episode, which the student evidently found stressful. It seems that, because the mentor did not stay with the student to demonstrate technique and positioning of the baby, the student midwife was forced to draw on her ‘other’ knowledge. This involved what she describes as her own “good knowledge” of breastfeeding (presumably theoretical) including “looking at the theory” as well as direct experience from breastfeeding her own infant(s). An essential quality of a skilled practitioner is perseverance as well as appropriate use of the evidence base and this is repeated during the discourse.

Student B continued

1 I sometimes worry about looking after breastfeeding women.
2 >It takes up quite a lot of time<
3 and it’s quite an intimate ur (■) thing to be doing with them.
4 You need (■) quite a good sort of rapport with the lady...
5 Urm, I really want to see breastfeeding improve.
6 And although it does take up a lot of time
7 >and (sometimes I feel quite anxious about it)<
8 I really think I need to push myself in this area and (■) take on these ladies.
9 >Urm, I’ve got two days off now to recharge my batteries<
10 so, um, I’ll speak to you again soon.
(Student midwife B, audio-diary)

Recognition of learning opportunities (Reactive learning) Eraut (2000)
The student appeared to learn a significant amount from the intensity of the experience and the need to problem-solve independently from the mentor. She states that her experiential learning confirms that “you need quite a good rapport with the lady” and had learnt that she needed to “push” herself in provision of breastfeeding support. Interestingly, whenever this student described her anxiety, her speech sped up.
Other students vocalised the benefits of indirect support from the mentor on their confidence. For example, Student N describes the subtle ways the mentor "instilled" the craft of midwifery. Surprisingly, the students in the sample who had previously completed nursing programmes did not often compare the experiences with midwifery.

### Summary of Student B: Breastfeeding discourse (postnatal ward)

<table>
<thead>
<tr>
<th>Time of stimulus</th>
<th>Learning (Measured using Eraut's learning typology)</th>
<th>Language used to describe experience and 'space' occupied</th>
<th>Perceived mediation</th>
<th>Outcome (Measured using Vygotsky's learning theories)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current experience</td>
<td>Reactive Recognition of learning opportunities</td>
<td>Some disclosure Uncertainty (eg &quot;I was a little unsure&quot;) Intimate space is partially occupied within the midwifery and public domain</td>
<td>Partial mediation occurs due to lack of direct support or modelling. (Mentor provides advice only). Zone of proximal development not identified</td>
<td>Mainly intra-mental due to lack of contact time, role modelling and reflective conversations with mentor. Incomplete/fragmented learning Knowing-in-waiting</td>
</tr>
</tbody>
</table>

The process of absorption of learning was described by some students:

**Student N**

1. I feel that the support is a lot better [than in nursing].
2. >and my mentor is certainly instilling this in me<
   (Student midwife N, audio-diary, p4)

The use of the word "instilling" implies quite a deep ingraining of indirect support and knowledge. The reliance on the mentor seems to be recognised and valued.

1. [My mentor] has instilled in me
2. the importance (•) of reading the CTG monitoring correctly (hh)
3. I do believe I've learnt a hell of a lot (•) through this practice
   (Student A, audio-diary, p16)
The following student was completing a long (three year programme) and seemed pleasantly surprised that the caring (mentioned several times) had started to “rub off” on her.

**Student A**

1. *She* (') puts the *care* in *carer*.
2. *She* actually *cares* about the >*women* in the family that she’s looking >*after*<
3. and this *really* does rub off on you.
4. *You* can, *yourself* (') imagine her caring for you
5. and knowing that’s the care that you’d want

(Student A, audio-diary, p4).

Interestingly, the words care, caring or carer are used on nearly every line.

The next narrative is from the diary of a Student E, who had a placement in delivery suite.

**Student E**

1. We looked after a um labouring lady (') hh today that had had an *epidural*.
2. When we went in *she* was quite >*tearful*
3. >*because* delivery suite was quite busy
4. *I* was left with her for quite a >*while*<....
5. At one point *I* did actually er try and find [my mentor]
6. >*but* she was busy doing something else<.hh
7. >So *I* had to go and ask Sister in charge<to come in
8. and check (') the CTG (') trace, >*which I do get paranoid about*<.
9. *‘Cos* I feel, .hh um that, as students, *we’re not sort of given enough training or .hhh
10. enough sort of *advice* (') or help with (') CTG skills
11. >*and I think they’re really* important skills to ha:ve<.
12. And (') um I don’t know.
13. >*I think there maybe should be extra sessions in that or something*<.
14. *‘Cos* there can be extreme consequences
15. to not interpreting the CTG trace <*properly*.

(Student E, audio-diary)


The student describes a need for formal application of knowledge related to fetal wellbeing from analysing a CTG trace. She describes a waning in her confidence from lack of specific teaching in this area. The word “paranoid” was not used often by students in their diaries. It seems to portray her anxiety and confusion. Her sigh (line 8)
is indicative of disappointment at her perceived lack of “training..advice and help” with CTG skills, defined as being “important to have” (line 11).

Other students conveyed how their confidence became dented:

### Student A

1. A lady (·) had been rushed in for an emergency Cesarean section....
2. so I took it upon myse(hh)if to go and get a sonic aid
3. and have a listen in (·) and to (·) remember what the readings were (tt).
4. The midwife hadn’t seemed to notice this
5. ...>So I had a listen in until the lady was ready for section<.
6. And then, again, I felt like a fly on the wall, pushed to the back.
7. I really did want to get my hands in (·) and go through.
8. >I watched this particular midwife at work<
9. and she (·) wasn't the same as [my mentor]
10. ...When my mentor goes in to theatre,
11. ...I'd say I miss [my mentor] when she’s not here,
12. especially in these situations that (1.8) do make me feel awkward
(Student A, audio-diary, p5)

One student described feeling exposed due to working in an unfamiliar setting with no mentor to lean on. The student divulges how the lack of social support affected learning:

### Student F

1. hh I felt a little bit clumsy really
2. because I have not been down there [to the clinic]
3. and the registrar was asking me to make appointments (·)
4. and do different things for her.
5. I wasn't really sure exactly where I was supposed to go
6. and _where the forms were_ or anything else.
7. I didn’t have a mentor with me. >I was on my own with the registrar<,
8. >so I felt that I might have been better if I’d had a midwife with me<
9. that could have told me exactly (·) what goes on with the <20 week check>...
10. I felt a little bit lost and a little bit blind as to what goes on down there.
(Student F, audio-diary, p2)

The fear of underperforming also appeared to affect the practice learning experience. The feelings expressed of feeling “clumsy” and “lost and blind” seem to display the student’s disappointment in her own performance and problems with socialisation into that environment (Menzies, 1960).
Student F, continued

1 'It was a bit of a shambles really because'...
2 I did not have my mentor with me...
3 I ended up learning the hard way, really,
4 <By myself today>...

The following student midwife also described how her confidence levels fell and went in 'phases'. The student described performing blood tests on babies in the community (a heel prick test, often termed a 'Guthrie').

Student H

1 So yeah, I'll have to concentrate a little bit more on um on my Guthries'.
2 I go through phases<.
3 I seem to be fine one time, no problems at all.
4 And then I seem to hit a wall you know,
5 And I don't don't seem to be doing so well

(Student H, diary, 2nd entry, p1)

Recognition of learning opportunities (Reactive learning) Eraut (2000)

Metaphors to describe confidence levels were often dramatic, for example, hitting a wall (line 4). As found by Pope et al (2003), the expectation of learning clinical skills in a linear fashion often led to disappointment for students when they felt they were performing under par. The experience did appear to stimulate reflection for future learning. This was only the second diary entry, meaning this student had returned to the community setting after a period of time. The following extract is from the eighth diary entry, so describes an element of change in levels of confidence:

Student H continued

1 Again, you know, my Guthries seemed a bit hit and miss
2 but I think the one I did today was fine' um (‘) (2.5).
3 It just seems to take me such a long time, you know
4 I do find if I do the Guthrie test and... fill in all the paperwork
5 and [my mentor] might ask me something.
6 And I'm concentrating on my paperwork
7 and I'm like a startled rabbit. What, what's that? Um (‘)
8 Still, I'm able to laugh at myself 'so I don't suppose it matters'.

(Student H, audio-diary, 8th entry, p5)
Incidental noting of impressions (Reactive learning) Erut (2000)

The erratic nature of the student's clinical performance is described "a bit hit and miss" (line 1). The student seems unsure about how the Guthrie test went. She also expresses concern at how long the test had taken her. It is implied that direct feedback from the mentor was not obtained. The student described the adjustments necessary to multi-task midwifery skills. Her metaphor, being like a "startled rabbit" describes the more performative aspects of being clinically supervised in front of a woman (service user). There seemed to be an implicit acceptance that the student needed prompts in order to complete the whole task.

### Summary of Student H: Guthrie 'heel prick' test discourse (community/home setting)

<table>
<thead>
<tr>
<th>Time of stimulus</th>
<th>Learning (Measured using Eraut's learning typology)</th>
<th>Language used to describe experience and ‘space’</th>
<th>Perceived mediation</th>
<th>Outcome (Measured using Vygotsky's learning theories)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current experience</td>
<td>Reactive- incidental noting of impressions</td>
<td>&quot;I hit a wall&quot;</td>
<td>Partial mediation occurs due to lack of direct support or modelling. (Mentor does use questioning as a technique).</td>
<td>Mainly intra-mental due to lack of contact time, role modelling and reflective conversations with mentor. Incomplete/fragmented learning Knowing-in-waiting</td>
</tr>
</tbody>
</table>

The following student described how her leaning on the named mentor had led to a degree of over-dependence on the expert midwife. The student was in the final placement of a three year degree.
Student J

1 I feel like I'm part of a double act working with [my mentor].
2 We work very well as a team.
3 And um the closer I'm getting to the end of my training,
4 the more daunting it is.
5 the thought of working solo...
6 I can't function properly without her [my mentor] sometimes.

Brief, near-spontaneous reflection on past episodes, communications, events, experiences (Reactive learning) Eraut (2000)
The student midwife seems to be describing a crisis of confidence, and seemed daunted by the thought of qualifying as a registered midwife. In stating that she sometimes felt unable to "function properly" without her mentor, the student was revealing her perceived dependence on the mentor and lack of readiness for coping with the challenges emerging from practice (Dochy et al, 2002).

Later in her audio-diary, the student reveals how safe she feels working in the mentor's presence:

"I feel quite cocooned and comfortable there."
(Student midwife J, audio-diary)

In the tenth diary entry, Student J reflected on how she needed to sever connections with her mentor and move into a more independent role, so taking on a degree of autonomy:

1 I've got to the point where I've learnt everything I'm going to get out of a book.
2 and I think that, practically I'm okay. I just really need to
3 get experience now and that's something that [my mentor],
4 as good as she is she cannot give me.
5 You can't get that off a book:
6 You can't buy it and it can't be passed on.
7 You've just got to learn it and .hh I really think, 'think
8 that's what I need to do now'.hhh
(Student midwife J, audio-diary, 10th entry).
Recognition of learning opportunities (Reactive Learning) Eraut (2000)

The student validates the invaluable place of hands on experience and practising of midwifery skills. Rather than shielding in the shadows of the mentor, the student recognises that it is time to acquire the craft knowledge independently.

Summary of Student J: Final placement discourse
(antenatal ward, hospital setting)

<table>
<thead>
<tr>
<th>Time of stimulus</th>
<th>Learning (Measured using Eraut's learning typology)</th>
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<th>Perceived mediation</th>
<th>Outcome (Measured using Vygotsky's learning theories)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current experience</td>
<td>Reactive-Brief, near-spontaneous reflection</td>
<td>Needing to be a &quot;double act&quot; with mentor and language of dependence: &quot;daunting&quot; to work solo Not able to &quot;function properly&quot; without mentor. False safety; &quot;cocooned&quot; 'Intimate' space is partially occupied-within the midwifery and public domain</td>
<td>Partial mediation occurs due to lack of direct support or modelling. (Mentor does use questioning as a technique). Zone of proximal development apparently not identified</td>
<td>Mainly intramental due to possible 'controlling' influence of the mentor and lack of appropriate 'fading' techniques in apprenticeship model. Knowing-in-waiting</td>
</tr>
</tbody>
</table>

The following section is an exploration of some of the techniques mentors use and means of transmitting this craft know-how to the next generation of midwives.
5.2 PART TWO-TECHNIQUES USED BY MENTORS, AS PERCEIVED BY THE STUDENT MIDWIVES

The following diary extracts have been selected because they reveal a range of strategies, techniques and modes of transmission reported by student midwives to be used to support non-formal learning. These included:

Role modelling and shadowing care, for example, remembering the women's histories "astounds me" (Student A).
Responsive mentoring, for example, using ‘what if’ scenarios and guided metaphor.
Non-verbal communication eg smiling
Creative techniques eg using chicken for suturing/wet sponge etc

How expert knowledge was imparted and explicated was extremely valuable and these data show the range of tools used by mentors. Techniques used to pass on the craft know-how within apprenticeship models were also varied. It is this variation which provides the most interesting material for in-depth analysis.

Mentorship styles and levels of supervision in operation were evident early on in some students' diaries. Student F had actually been on a placement on an antenatal ward for two weeks:

**Student F**

1 Started off today. Urm Given six clients to look after...
2 >My mentor gave me the women and discussed their care with me<
3 ...It was decided I was going to see my first lady...
4 So it was decided that we referred her to the Registrar urm to go ‘home’

(Student midwife F, audio-diary, p1)

Whilst care was apparently "discussed" the term "it was decided" is repeated, implying there was little opportunity for negotiation by the student midwife, who felt she had been "given" women to care for.

The second diary entry from Student F also portrays the decreasing supervision levels of the named mentor:
Student F

1. >My mentor pretty much lets me (•) go ahead now and...medicate the women<
2. Urm, give them their medication
3. >and she will just countersign whatever I have given them<...
4. Again, after admitting them [women], do whatever basic obs that need doing:
5. Do their computerised CTG on them and urm have um my mentor 'countersign them'

(Student F, audio-diary, second entry)

The countersigning of records theme is reinforced through repetition. Clinical activities appear to be largely task-driven, with few practice conversations occurring, enabling stories to be told which provide opportunities for craft knowledge to be transferred from the mentor.

The seventh entry by Student F reveals expressed resentment by the student. Resentment of this nature was rarely related to the mentor in this data set and therefore often remained unspoken:

Student F

1. It sometimes naffs me off tre;ally, when um I'm given two women to look after
2. I'm given (•) MORE women (•) really than um...
3. >I'll have half the ward<
4. And the other midwife on duty will have then other half of the ward.
5. >But I am supposed to be doing it with my mentor<.
6. But most of the time she is tied up...
7. Sometimes you think you are a general dogs body for them [midwives]

(Student midwife F, audio-diary, 7th entry)

Student F evidently feels like an underdog, which appears to be blocking her learning. There was also a perceived tension with expectations of being supernumerary to the workforce but actually being used as a pair of hands. This was the case with several student midwives in the data set. Student P described being "collared" to work as a maternity care assistant for a late shift.

In contrast, Student G was on a placement in community and was working in an antenatal clinic with her mentor:

Student G

1. ...I'm very (•) sort of aware that I'm led by forms (•) to pick up my cues<.
2. And (•) although I've got the knowledge,
3. the, the flow of conversation isn't as great as (•) when my mentor takes sort of
Recognition of learning opportunities (Reactive learning)

The student describes the problems she has with 'fluency' of conversation with a woman in her second week out in the community. The manner of the mentor (as very reassuring) appears to be important to the student. The techniques used by the mentor which are recorded as being successful for enhancing this student's learning are: filling in the gaps during a booking visit and debriefing the student by "chatting over" the care.

The student is questioned on how she could have expanded on information-giving to the women. This is an example of confederation, in which the mentor takes the lead role.

Although the student recognises learning opportunities arising from this clinical episode, there is no follow-up recorded, for example, practising the skills soon after the event.

Summary of Student G. Antenatal booking history discourse, community antenatal clinic

<table>
<thead>
<tr>
<th>Perceived apprenticeship style used by mentor</th>
<th>Perceived mediation tools used by mentor</th>
<th>Learning planned/intentional, including ZPD or unplanned?</th>
<th>Outcome for learning</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scaffolding Confederate activities: &quot;My mentor takes the lead role&quot;</td>
<td>Role modelling the 'flow of conversation' and 'fluency' of a booking</td>
<td>ZPD partly assessed but not recorded, therefore informal</td>
<td>Partially inter­mental.</td>
</tr>
<tr>
<td>Debriefing</td>
<td></td>
<td></td>
<td>Reactive</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Knowing-in waiting</td>
</tr>
</tbody>
</table>

The following student midwife also describes the non-formal learning arising from listening to her mentor and communicating with a woman who was apparently very anxious.
Student E

...we just (•) basically um did a CTG trace (*) hh for a lady that came in
with reduced fetal movements (•) since, 'um (•) I think yesterday evening'.
She was quite distressed actually.
And it was quite (•) interesting how [my mentor] dealt with the situation and...
it's something you pick up on things like.
You have to actually ( ■ ) be there and deal with these situations
and come across them, to be able to experience (•) them.
Because y' you know, you can't sit in a classroom
and learn about things like that.
> And the next time we're going to be coming across it< (•) and situations like
that-
probably more dire situations I'm referring to like, um, inter-uterine *deaths* or
something.
But, you know, you need to learn those skills ...
Um (•)'cos you know you don't pick them up from a text book really'.
(Student E, audio-diary, p 218)

Being prepared for emergent learning opportunities (Reactive learning)
Eraut (2000)
The student describes how interesting it was to see the mentor “dealing with” a woman
who was distressed. In the narrative, she expands on the differences between
theoretical book knowledge and what she terms experience. There is, however, the
possibility that the student observed the situation without any actual hands on
experience. There seems to be a tension between being prepared for “dire” situations
such as inter-uterine deaths but not wanting to be exposed to such challenging events.
Role modelling of sensitive professional communication appeared central to this
student’s learning (Bluff, 2001).
Summary of Student E. CTG discourse, delivery suite

<table>
<thead>
<tr>
<th>Perceived apprenticeship style used by mentor</th>
<th>Perceived mediation tools used by mentor</th>
<th>Learning planned/intentional, including ZPD or unplanned?</th>
<th>Outcome for learning</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scaffolding Confederate activities:</td>
<td>Role modelling</td>
<td>Learning was spontaneous, case-led</td>
<td>Partially inter-</td>
</tr>
<tr>
<td>&quot;Interesting how my mentor dealt with the situation&quot;</td>
<td></td>
<td>ZPD not assessed</td>
<td>mental.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>therefore student’s fear was unrecognised</td>
<td>Reactive</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Knowing-in-</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>waiting</td>
</tr>
</tbody>
</table>

The following student describes her learning during a stressful situation. The student was studying on a pre-registration shortened programme:

Student L

1 Had a bit of a ( ) . hh complic... we::ll, not a 'complicated case'
2 but one where the Registrar was involved and (2.0) insisted on remaining in involved...
3 Um, .hhh managed to get her [the woman] to fully [dilated] ()
4 and the Reg. was wanting to deliver by *section.
5 () But fortunately [my mentor] got this lady () pushing well and she delivered.
6 So I got my () fifth *delivery.
7 Nine pound three baby () . hh but it got a bit *airy .hhh...
8 the shoulders wouldn’t *cox me,
9 but it *worked out ok tay...
10 Um (3.0) when I couldn’t get the shoulders (1.2) to deliver,
   I stepped back a little bit
11 and let [my mentor] ( ) .h *do it.
12 >’Cos I *hat myself ’cos I thought it was shoulder dystocia to *art with< (2.2).
13 [My mentor] said it’s just a case of getting my confidence
14 and need to learn to pull hard ( .hhh ) ((sniff)).

(Student midwife L, audio-diary, 4* entry)

Recognition of learning opportunities (Reactive learning) Eraut (2000)
The mentor appears to have demonstrated skilful practice, despite an obstetric registrar’s opinion. The student verbalises the pride felt at the mentor’s successful delivery of the baby, in view of difficulty with the shoulders. The student alerts the listener to the fact that she found shoulder dystocia frightening, stating that she “shat” herself. The student then implies that the mentor jokingly suggested she needed more
confidence. Although the student laughs at the advice that she merely needed to “pull harder” to deliver the baby, it would have been helpful to have known what steps the student could have taken to increase her confidence levels. The verbal advice from the mentor is missing.

Later, the student adds:

1 Nice to be working with [my mentor] again (•) hh.
2 Someone who knows where I’m at and (2.0) y’know,
3 lets me do things I’m confident with
4 >and tries to push me to do other things as well<.hh

Planned learning opportunities (Deliberative learning) Eraut (2000)
The student midwife describes how confident she felt with certain skills and displayed gratitude for the mentor pushing her to do things she was less confident with. This is an example of the mentor assessing the student’s zone of proximal development, so encouraging the student to work just outside her comfort zone.

Level of intentionality (Eraut 2000)
The student suggests a high level of motivation for increased learning of clinical skills. There is an element of respect voiced for the mentor’s expert judgement and evidence that the learning experience was being planned in partnership.

Summary of Student L. Difficulty with delivery of shoulders discourse, delivery suite

<table>
<thead>
<tr>
<th>Perceived apprenticeship style used by mentor</th>
<th>Perceived mediation tools used by mentor</th>
<th>Learning planned/intentional, including ZPD or unplanned?</th>
<th>Outcome for learning</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scaffolding Confederate activities: “My mentor got the lady pushing well”</td>
<td>Role modelling of second stage of labour care with doctor present and involved</td>
<td>The care was reviewed, leading to tailored advice for the student</td>
<td>Partially inter-mental.</td>
</tr>
<tr>
<td></td>
<td>It is implied that the mentor advocated for the woman</td>
<td>ZPD attended to when the student ‘stepped back’</td>
<td>Reactive</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Knowing-inwaiting</td>
</tr>
</tbody>
</table>
Student A vocalises the importance to her of being enabled to talk about her learning needs. It is useful to have a record of how “mid-point” or formative assessments were managed by some mentor/student dyads:

1. She [my mentor] started by discussing (·) what I thought I’d accomplished...
2. I told her I was quite worried about complicated labours
3. Because (·) I hadn’t really had much exposure.
4. She said (·) that it would come...
5. At the end of the [formative] assessment, there were recommendations
6. For future practice
7. And [my mentor] put in (·) ‘complicated’ deliveries, such as Caesarean sections
   (Student A, audio-diary)

Despite her preceding expressed fear of the operating theatre environment, Student A sounds reassured that there is direction suggested by the mentor. These formative dialogues were essential for planning of the placement experience.

The following student also vocalises the necessity for the mentor to actively role model aspects of care, which has potential to influence students’ future practice:

**Student N**

1. ..My mentor has got a lot of experience (.h) and (·) is a very, very good communicator
2. She puts everybody at ease hh, therefore..<leaving herself open to questions>(.hh)
3. And open (·) to the women (·) to allow her to give them support (·)
4. <and the care that they need >(.hh)
5. And I’m hoping that will come with experience...
6. And watching my mentor (·) <hopefully I will be able to pick up the tips>
7. Of making myself available for women when they need to talk

Review of past communications (Deliberative learning) Eraut (2000)
The student describes the impact of subtle shadowing of the midwife mentor on her practice. Although the benefits of being exposed to “pick up the tips” are mentioned, reinforcement of learning could have occurred through the mentor thinking out loud. This is obviously extremely sensitive when interactions involve women receiving maternity care.
Summary of Student N ‘Shadowing’ the mentor discourse

<table>
<thead>
<tr>
<th>Perceived apprenticeship style used by mentor</th>
<th>Perceived mediation tools used by mentor</th>
<th>Learning planned/intentional, including ZPD or unplanned?</th>
<th>Outcome for learning</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scaffold through modelling</td>
<td>Role modelling</td>
<td>Unplanned, unspoken</td>
<td>Partially inter-</td>
</tr>
<tr>
<td>Confederate activities</td>
<td>Eg ‘good communication, openness with women, availability as a midwife, including approachability</td>
<td>ZPD not assessed for future learning</td>
<td>Reactive</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Knowing- in-waiting</td>
</tr>
</tbody>
</table>

The following discourse presents the student’s discomfort at seeing practice apparently at odds with theory:

**Student C Second stage discourse**

1. Um, (1.5) so it was good..to watch somebody else work
2. And I haven’t actually ever witnessed one of [my mentor’s] births anyway
3. ...I had issues that um (0.3) about things I probably wouldn’t have done myself...
4. ..She’s very sort of hands on
5. And it tended to (1.0) make everything swo::ilen...

(Student C, audio-diary, 2nd entry)

The above discourse resonates with Bluffs (2001) research, in which ‘prescriptive’ midwives were observed performing in a sub-standard way. As this event was not formally observed by a researcher, the student’s account must be accepted as an utterance which represents new information (Ward and Birner 2003). It is troubling that the student describes having “issues” about the care, which was counter to evidence (for example, Kettle 2005, Stewart 2005) but did not confront the mentor.

This conflict and dissonance with theory is also prevalent during a third stage of labour episode of care:
Student C Third stage discourse

1 I was also in a bit of conflict actually with third stage
2 She [my mentor] asked me to give Syntometrine, which I did
3 And then proceeded to say that she was going to wait
4 for the cord to stop pulsating before she cut it (1.3)
5 Which freaks me out a bit
6 Because we'd just done third stage stage management at College...
7 "It's something that I was quite twitched about"...
8 I don't really feel that I could say anything to [my mentor]
9 I just hope that the issues might arise...
10 And I can sort of have a chat to her about it
11 And see what her rationale is for doing it
12 Um. We shall see...
(Student C, audio-diary, 2nd entry)

The student described feeling “twitched” and “freaked out” by the incongruence of theory and actual observed practice (Higgs and Titchen, 2001). As no rationale for this practice is provided, it would seem the mentor was not working within a desired cognitive apprenticeship model.

Summary of Student C: Second stage and third stage of labour discourse, delivery suite

<table>
<thead>
<tr>
<th>Perceived apprenticeship style used by mentor</th>
<th>Perceived mediation tools used by mentor</th>
<th>Learning planned/intentional, including ZPD or unplanned?</th>
<th>Outcome for learning</th>
</tr>
</thead>
<tbody>
<tr>
<td>Confederate activities. Mentor taking the lead through modelling</td>
<td>Role modelling</td>
<td>Unplanned, unspoken</td>
<td>Intra-mental</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ZPD not assessed for future learning</td>
<td>Reactive</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Knowing-in-waiting</td>
</tr>
</tbody>
</table>

The following diary extract provides more detail regarding how a mentor tested a student’s knowledge when identifying the position of a baby in utero. The student described how her learning was more than reactive (or on-the spot) because the mentor apparently mediated the learning through playing a game (in this case, keeping a ‘poker face’).
Student A

1 We discussed positions, and on the last examination I did actually feel,
2 on the last couple of examinations, I felt landmarks
3 >and I've started to draw little diagrams<.
4 We were discussing what position that would indicate.
5 [My mentor] played a little game where she looks like poker-face.
6 So she gets you to tell her what you think you're feeling
7 and she looks at you with a complete poker-face,
8 that doesn't tell you whether you're right or wrong,
9 just to see what percentage you're sure of what you're feeling.
10 But of course, me, straight away, doubting (1.4).
11 If you've got this face on that doesn't say "Yeah, yeah, yeah" I'm thinking
12 "Oh no, it's not right. I've got it wrong."
13 So she went and got the baby and the pelvis,
14 and we used the baby and the pelvis
15 and we knew what position from palpation the baby was in etc.
16 and it was right.
17 She was having me on,
18 trying to get me to have confidence in what I was feeling.
(Student A, audio-diary, p22)

Planned learning opportunities (Deliberative learning) Eraut (2000)

In the above narrative, the mentor used several techniques. For example, she
encouraged the student to draw diagrams, then tested the student's knowledge but kept
a straight face. The student was questioned in more depth before the mentor used a doll
and pelvis to help reinforce the knowledge. The student evidently required a substantial
amount of reassurance but this combination of techniques for teaching a skill appeared
successful in increasing the student's confidence levels.

Later the student added:

Student A continued

1 She knew I was right, she knew I could do it.
2 It's me that doesn't, not her.
3 She has all the confidence in the world in me.
4 It's always me doubting myself.
(Student A, audio-diary)

Planned learning opportunities (Deliberative learning) Eraut (2000)

The student midwife describes the somewhat damaging effect of self-doubt on clinical
learning. The first line appears to be indicative of a strong mentoring relationship which
has potential (based on Spouse's findings 2003) to form the basis of a solid coaching relationship. The findings are similar to those of Andrews and Wallis (1999) and suggest that a sound knowledge of the student's capabilities by the mentor is fundamental to active learning.

Summary of Student A. Examination to assess position of baby discourse, delivery suite

<table>
<thead>
<tr>
<th>Perceived apprenticeship style used by mentor</th>
<th>Perceived mediation tools used by mentor</th>
<th>Learning planned/intentional, including ZPD or unplanned?</th>
<th>Outcome for learning</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scaffolding</td>
<td>Semiotic mediation eg smiling and using facial expression eg 'poker face'</td>
<td>&quot;She gets you to tell her what you think you're feeling&quot;</td>
<td>Partially intentional.</td>
</tr>
<tr>
<td>Fading</td>
<td>Tools eg drawing diagrams, doll and pelvis.</td>
<td>ZPD attended to</td>
<td>Deliberative.</td>
</tr>
<tr>
<td></td>
<td>Discussion-to analyse position of baby</td>
<td></td>
<td>Knowing-in-use</td>
</tr>
</tbody>
</table>

The student in the next diary extract appears to appreciate communication with her mentor regarding management commitments of the mentor:

Student A

1 [My mentor] did ask me (·) whether her being a shift leader,  
2 did I think this was detrimental to my learning?  
3 I don’t think so personally....  
4 [My mentor] would not leave me in a situation that she did not think I was capable of handling  
   (Student A, audio-diary p1).

In a later diary entry, Student A says:  
[My mentor] would not let me go blind-sided into any situation (p6).
Planned learning opportunities (Deliberative learning) Eraut (2000)

The student appeared to be describing active planning on the part of the mentor and sponsorship to the community of practice. Additionally, students often cited the need for mentors to explicitly state that they would not intentionally leave the student midwives. This seemed to be of particular importance for placements on delivery suite.

Student A continued

1 ...We took a lady who was in established labour.
2 She was gravida 2, para 1, only a young girl.
3 She was low risk and she wished for an epidural-
4 “something which I feel a lot better about now”,
5 I mean some of the anaesthetists can...they can be buggers.
6 They like to make the students flap. I think it’s a little game of theirs.
7 [My mentor’s] always saying don’t let them do that to you.
8 She knows the staff so well
(Student A, audio-diary, p 18)

In the above diary extract, the student midwife describes how the mentor exposed her to the wider community of practice. The mentor appeared to use befriending as a technique as a subtle way to encourage the student to be more assertive in practice. The student realises that knowledge of the institutional culture is being imparted and proudly states: “She [my mentor] knows the staff so well”.

The following student’s discourse hints at the non-formal learning arising from discussing care during allocation of women and also attending a ward round with a doctor.

Student F

1 ...hh Basically I was allocated women to look after ((sniff))
2 And I discussed the care >I was going to give them with my mentor<.
3 Done the usual routine with them...
4 When the Doctor came, umm, tt I went round with him and my mentor
5 On the ward round
6 To see the plan of action and the care plan for the two women ((sniff))...
7 Um, everything seemed to go well today
(Student F, audio-diary)
Significant learning appeared to have occurred through participating in planning the care and having a legitimate role in the ward round. The student seemed to feel stimulated by the Doctor’s approach, after performing the “usual routine” for the women allocated to her on that day.

Student F, continued

1 ‘Again (•) my 20 week woman had come in’...
2 The consultant had a little listen to her and ur he talked through her care really
3 He was teaching his medical students...
4 >Which was t’nteresting really,, to see how they go about things<.
5 And the different sort of ur app’roach turtle
(Student F, audio-diary)

The above discourse highlights the importance of articulation of care and explanation through teaching. The different approach used by a medical consultant was described as ‘interesting’. The technique used by the doctor appeared to be ‘thinking out loud’ (Olson and Biolsi, 1991) which seemed to stimulate the student to see care for women of 20 weeks gestation in a different light.

The following student midwife describes a lack of befriending and sponsorship by the mentor. Her placement was on delivery suite.

Student D

1 .hh ur things i’ve learnt to tda:y (■ ) are...
2 Firstly orientate yourself better with the room that you’re fin (•)
3 because the doctor was asking me for ‘vicryl and i didn’t know where it wa:s.
4 Um and also (■)< familiarise myself with (hh) a forceps delivery pack>
5 because I picked up a green sheet,
6 thinking it was what the baby was going to be (•) put into.
7 And it was actually the sheet that’s put over the um lady’s bottom end
8 when she’s having her sutures def(h)ne
(Student D, audio-diary,p1)

Recognition of learning opportunities (Reactive learning) Eraut (2000)
In this short diary extract, the student midwife divulges three areas in which needed extra practical knowledge. Although the student admits that she needed to orientate herself to the delivery room, this extract contrasts sharply with the above extract because of the lack of a presence of the mentor. The student evidently felt inadequate in
her clinical performance as she did not know where the suture material was; she was not familiar with a forceps pack and used a sterile towel inappropriately.

Later, the Student D adds:

1 ...I’m a fi:ear into my training now and (*) I feel that I should know a lot more.
2 I still panic inside um when there’s doctors about
3 and um they’re asking me to do things that I’m not sure about.
4 I know it’s the way to learn...
5 I didn’t have a chance to speak to her [my mentor] about the delivery-
6 to reflect on, on the actual progress...
7 n:o doubt I’ll do that tomorrow...
8 Hopefully we’ll be able to sit and talk about where I went wrong
(Student D, audio-diary)

Brief, near-spontaneous reflection on past episodes, communications, events, experiences (Reactive learning)

The lack of mentor presence and debriefing by the mentor led to the student feeling disappointed with herself—t hat she didn’t know more after a year on a midwifery preparation programme. The student revealed the “panic” she felt when unsure of practice in a doctor’s presence. It is interesting to note that the student has not mentioned the woman in the above scenario, yet performing care often alters the dynamics and therefore impacts on the learning.

The next diary extract describes contrasting reactions to the above student by describing her experiences of working with an anaesthetist in delivery suite but with her mentor in the room, encouraging her.

**Student A**

1 I ha:ve actually (*) assisted in the setting up
2 and performing of a couple of epidurals ur but it still feel a bit (*) you know,
3 >I’ve forgot something, I’ve not done something I should have done<.
4 This time (’), I was to work alongside (’) the Consultant Anaesthetist.
5 It’s very rare you see him <perform (1.5) an epidural>
6 >but [my mentor] said it would be a good experience<
7 “Go o:n, GET IN THERE (*) have a tGO”.

Planned learning opportunities (Deliberative learning) Eraut (2000)

In suggesting that “it would be good experience” for the student to assist the anaesthetist with the setting up of an epidural, the mentor has defined the student’s zone of proximal
development. The student seems to conceal some anxiety but divulges that it is a privilege as the consultant rarely performs epidurals. Although set up as a formal learning experience, there are many non-formal aspects as this was a first experience for the student.

Later in her diary, the student described the confederate activities of the mentor:

<table>
<thead>
<tr>
<th>Student A, continued</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 This (•) Consultant (•) had a student with him this day,</td>
</tr>
<tr>
<td>2 a female student, and she came in</td>
</tr>
<tr>
<td>3 and (•) he was talking her through what [was doing (•) and what he was doing,</td>
</tr>
<tr>
<td>4 and (0.5) again, [my mentor] and I were,</td>
</tr>
<tr>
<td>5 were (•) discussing things &gt;as the epidural was set up&lt;</td>
</tr>
<tr>
<td>6 &gt;and supporting the woman between us&lt;.</td>
</tr>
</tbody>
</table>

Planned learning opportunities (Deliberative learning)
The student suggests that she is learning vicariously from the medical student’s conversation with the anaesthetist and also from cues from the mentor. Discussing the procedure as the epidural was being set up demonstrates the importance to students of skills being taught concurrently with explanations. This diary extract includes the provision of support for the woman in labour and provides insights into how non-formal aspects such as communication with clients is role modelled.

The next diary extract is also from Student A describes the learning achieved through reversing roles:

<table>
<thead>
<tr>
<th>Student A</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 [My mentor] stayed to support the woman,</td>
</tr>
<tr>
<td>2 which is something I’d done at the beginning.</td>
</tr>
<tr>
<td>3 ['Somewhere along the line we’d had a sneaky role reversal</td>
</tr>
<tr>
<td>4 (•) and I’d started to take the (•) initiative</td>
</tr>
<tr>
<td>5 &gt;as well as a little push from [my mentor]&lt;</td>
</tr>
<tr>
<td>6 &gt;and (•) I’d just accept that I was going to take the more active part&lt;</td>
</tr>
<tr>
<td>7 &lt;So I helped the Anaesthetist perform&gt;...</td>
</tr>
<tr>
<td>8 I assisted him (•) perform the epidural (•) and all the time he was doing it,</td>
</tr>
<tr>
<td>9 he spoke to his student.</td>
</tr>
</tbody>
</table>

(Student A, audio-diary, 15.11)
Planned learning opportunities (Deliberative learning) Eraut (2000)

The role reversal in this instance (described as “sneaky”) appeared to make a positive impact on the student. The “little push” from the mentor indicates that the zone of proximal development was taken into consideration. This is an example of responsive mentoring because the student articulated her feeling of moving towards more autonomous practice in taking “the more active part”.

Summary of Student A. Assisting with an epidural insertion discourse, delivery suite

<table>
<thead>
<tr>
<th>Perceived apprenticeship style used by mentor</th>
<th>Perceived mediation tools used by mentor</th>
<th>Learning planned/intentional, including ZPD or unplanned?</th>
<th>Outcome for learning</th>
</tr>
</thead>
<tbody>
<tr>
<td>Confederation</td>
<td>Reinforcing learning: “The mentor was talking her through what I was doing and what he [consultant] was doing” Eluciating expert knowledge by thinking out loud</td>
<td>ZPD attended to- “Have a go” Mentor pushing student beyond comfort zone. “We’d had a sneaky role reversal. I was going to take the more active part”</td>
<td>Partially inter­mental. Deliberative. Knowing-in-use</td>
</tr>
</tbody>
</table>

The next student’s experience was described as being very different. The setting was a community antenatal clinic and, although the mentor was present, the student’s learning appeared to remain in a reactive mode.

Student G

1. We went on to (* antenatal clinic...
2. I decided you know I was going to sit in the main seat...
3. I sort of got to grips with the (*) .hh difference between each (*) stage of the ‘visits’
4. sort of whether it was a 26-week visit...or 40 week (*visit).
5. But we had quite a lot of ladies who had um (tt) blood reports to discuss...
6. and um there was (*) one stage, that ur just discussing antibodies
7. and ‘rhesus negative (*) ladies’ that I got all tongue-tied.
8. I hadn’t discussed it for such a long time<
9. hh that I hadn’t quite got it in my head (') how to discuss it simply
10 < so the ladies could “understand”>
11 >So I need to go away< and and just sort of look over it again
(Student G, audio-diary, 2nd entry)

Recognition of learning opportunities (Reactive learning) Eraut (2000)
Rather than the mentor assessing the student’s abilities prior to the clinical episode, the student states that it was her decision to “sit in the main seat” and therefore lead the antenatal examination. The student admits to the difficulties of explaining technical aspects of blood tests to women in user friendly language after being away from this clinical setting. The final admission, that the student had become “tongue-tied” reveals the importance of planning the care and staging role modelling activities. The student admits that for future learning she intends to “look over it” again. It would seem that practising the communication aspects in a clinical skills laboratory would help to anchor this learning (Wienstein 1985). The learning possibly moved into a more deliberative mode with opportunities to rehearse these skills in the presence of the mentor but in a safe environment.

The following diary extract illustrates the benefits to one student in the second year of a Diploma:

<table>
<thead>
<tr>
<th>Student D</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 And [my mentor] (') actually suggested...that she did a few deliveries</td>
</tr>
<tr>
<td>2 so I could watch how she does things.</td>
</tr>
<tr>
<td>3 &gt;And maybe go into a couple of deliveries with other midwives&lt;</td>
</tr>
<tr>
<td>4 so I can see(’). hh the varying (’) techniques for delivery (’) from different</td>
</tr>
<tr>
<td>people....</td>
</tr>
<tr>
<td>5 &gt;urm, so she delivered this one (’)&lt; and it was, it was a wonderful</td>
</tr>
<tr>
<td>delivery...</td>
</tr>
<tr>
<td>6 &gt;We all worked as a team&lt; and it was just such a successful delivery...</td>
</tr>
<tr>
<td>7 There was no kitchen equipment involved, no interventions,</td>
</tr>
<tr>
<td>8 no doctors, no nothing...It was just a wonderful normal birth</td>
</tr>
<tr>
<td>9 in such a large obstetric (’) unit (’) you get to see a lot of metal...</td>
</tr>
<tr>
<td>10 and a lot of intervention, so this today was a (’) lovely opportunity</td>
</tr>
</tbody>
</table>
(Student midwife D, audio-diary, p8)

Planned learning opportunities (Deliberative learning) Eraut (2000)
In the above extract, the student is reminded of the more positive aspects of the culture of midwifery. The mentor has identified the student’s zone of proximal development,
although the planning appeared to be informal. This is an example of the power of situated learning, in which the student is actively involved in the community of practice. What is particularly noteworthy is the student's impression from seeing the "varying techniques" and in particular the practice style of her own mentor. The culture of the "large obstetric unit" is summarised in the student's use of the word "metal". Interestingly, student midwives on the shortened (78 week) programme tended not to use such graphic descriptions of equipment used in delivery suites.

In the following narrative, Student N indicates the powerful learning which occurred through hearing her mentor explain the reasons for an induction of labour to a couple. Student N's placement was on an antenatal ward.

**Student N**

1 On speaking (*) to (*) , hh the lady and (*) also her partner (.h),
2 it was (*) clear that the, that the...
3 registrar had given (*) no indication of what induction of labour "meant"
4 um so (*) I asked my mentor if she would come (*) and explain (*) the reasons behind it.
5 >She showed them the graph and the head circumference<(.hh)
6 um my mentor said that although the baby was growing (.hh)
7 she explained (*) that (*) the baby wasn’t growing as (*) much as they had expected
8 >and that was the reason they had brought her in for an induction<
   (Student N, audio-diary, p9)

**Being prepared for emergent learning opportunities (Reactive learning)**

Erut (2000)

The mentor apparently role modelled how to explain the induction of labour process and reasons for this to an anxious couple. Anxiety had possibly been raised by inadequate explanations being previously given by the doctor. What appears to have helped the student's learning is the way the mentor used the growth charts to reinforce the explanation.

Another technique apparently used by mentors is a formal preparation talk prior to entering a situation. This is described by Student A, who describes the impact this has on her learning.
At the beginning of the evening (•) it was quite quiet.
We had a couple of ladies in.
One of the ladies was a lovely low risk, "low risk lady"
and [my mentor] (•) decided that it was maybe time for me
to take a bit more responsibility (•) and to take over the main care of this lady...
So (•) [my mentor] (•) had a pep talk with me (1.8) went through asking me questions:
what would I be monitoring? What would I be observing? (0.5)
"What, if any, deviations I picked up would I think needed to be reported to [my mentor]?"
Which is great, when you go into that situation (•).
You come on a shift and you never know what you’re going to face.
And the little pep-talk just before
<like a little on-the-spot sort of reminder is a big help>
(Student A, audio-diary, p 2)

Planned learning opportunities (Deliberative learning) Eraut (2000)
In line 9, the student identifies the often unpredictable nature of midwifery practice: “You come on a shift and you never know what you’re going to face”. The mentor had taken time to specifically prepare the student for taking a lead role in a ‘normal’ case. This was described by the student as being a “pep-talk” with implications of it being tailored for her individual needs as a learner. Questions were posed to trigger the student to focus on crucial aspects of care. This is an example of preparation of the student potentially leading to lifelong learning.

Mentors sometimes disclosed elements to students of their own journeys in becoming qualified midwives. An example of disclosure is presented in the next diary extract:

...There have been times when I’ve doubted whether I wanted to be a midwife.
>But one good day with [my mentor] and I’m back on track.<
She’s always encouraging, always supporting; reassuring.
‘You’re only human. You’re going to feel this way.
You’re going to have days when you’re just going to go
and want to get a job at Marks and Spencer because it seems so much simpler.
“But it’s normal to feel this way”
She’s felt this way.
(Student A, audio-diary, p19)
Being prepared for emergent learning opportunities (Reactive learning)
Eraut (2000)
The student reiterates the characteristics of a 'good' mentor in suggesting the midwife was always "encouraging, supporting and reassuring". Characteristics of good mentorship are vocalised (Gray and Smith, 2000), for example, being encouraging, supporting and reassuring (line 3).

The following is a diary extract which also conveys coping with the reality of midwifery practice and the culture.

Student M
1. We've actually been quite busy today.
2. There has been lots of different care to different women,
3. including psychological support, explanations, physical support.
4. And my mentor and I did take some time out to discuss how trying
5. and how hard it can be to put on so many different hats in one day
6. and cope with so many situations.
7. And stop thinking about one and move onto the next
8. and then go back to the first one.
(Student M, audio-diary).

Being prepared for emergent learning opportunities (Reactive learning)
Eraut (2000)
The student expressed how "trying and hard" the midwifery role can be. It seems to have been beneficial to the student to have taken time out for this discussion centred on the essence of the culture of midwifery practice. The mentor guides the student, demonstrating strategies for coping effectively with a range of situations simultaneously. Weaving in psychological and social support with physical care is role modelled. How to manage emotions as a health care professional is vocalised and evidently reflected on by this student midwife.

The following student describes the benefits to her learning of the mentor being a constant presence and a "bystander" during the delivery of twins in delivery suite. Of relevance in this situation, is the preparation prior to the birth as the student had expressed her anxieties to her mentor. As with the previous student, the mentor vocalised the planning of midwifery care, which is necessary despite often unpredictable nature of midwifery care.
Student A

1. So it suddenly struck me that (·) when we got to the pushing stage,
2. I had no idea as to, to - I mean, > I knew you pushed; the baby comes out<.
3. Where do you go from there?...
4. [My mentor] (·) took me to one side and she, she made it sound so (* easy>
5. so straightforward.
6. She told me how she (·) coped with delivering twins; what she did, step by step,
7. what she did herself (·) And it sounded very straightforward.
8. 'And she explained to me that she would be checking the baby'.
9. The second twin stayed in a cephalic position
10. but she did (·) also say that I was going to do this delivery (·)
11. and she was literally a bystander (0.5) which unnerved me (·) slightly-
12. but [my mentor] had every confidence in m(h)e (hh).
(Student A, audio-diary, p14)

Engagement in decision-making, problem solving, planned informal learning
(Deliberative learning)

It was the student midwife’s first experience of delivering twins. The two elements which appeared to impact positively on the student’s learning were that fact that she was taken to "one side", briefed on the role the mentor would play and also had explanations given "step by step".

There was also an element of planning demonstrated by the mentor. The student verbalised her reassurance. In line 6 the student says: "She told me how she coped with delivering twins". This disclosure by the mentor and repetition that the process was essentially 'straightforward' proved to be a comfort to the student.

The zone of proximal development appears to have been loosely identified but a lack of negotiation of the learning by the student resulted in the student stating that she felt "unnerved" (line 11). Knowledge by the mentor of the student midwife's capabilities, however, led to a perceived positive learning experience for this student.

The following student suggests the mentor's "step by step" explanation of the breech mechanism armed her with knowledge for her future practice:
Student N

1 With regards to how today was spent,
2 I've been able to, to (•) bridge the theory practice gap, really, well
3 Time allowing from the ward (0.5) to (•) query this-
4 >This form of delivery, breech delivery<
5 And be able to go through it with my mentor (•) step by step
6 What happened. And how you deliver the legs
7 & how you deliver the shoulders<, hh, um (0.7)
8 It's been very good.
9 It's helped me, I think,(•) for the future.
(Student N, audio-diary, p 2)

Planned learning opportunities (Deliberative learning) Eraut (2000)
The mentor is reported by Student N to have used several useful strategies for imparting knowledge of the breech mechanism. The systematic method used by the mentor was described as being successful for helping the student midwife make theory practice links. It is not clear whether the mentor used a teaching aid for demonstration. What appears to be significant is the "step by step" delivery of information, which the student midwife found "very good" and useful for future practice. The student also alludes to being removed from the ward environment for this learning episode and suggests she was "allowed" time for learning.

The following diary extract demonstrates the scaffolding of learning, which the Student K identifies as "support" rather than teaching:

Student K

1 My mentor was supporting me today
2 through the booking clinic that we had in the afternoon
3 and through the visits I had in the morning.
4 Even though I'd had a couple on my own, she was there supporting me
5 once I'd finished those visits
6 ...And making me feel confident that I could do it when I qualify
(Student midwife K, audio-diary)

Engagement in decision-making, problem solving, planned informal learning (Deliberative learning) Eraut (2000)
The student describes the powerful effect on her learning of having the continuity of the mentor through a variety of activities. This is an example of confederation (Spouse
2003), in which the mentor takes the lead. The ensuing confidence of the student is vocalised and shows the necessity for adequate debriefing of student midwives when they have performed visits in the community independently.

Student N also expressed gratitude for the mentor showing and talking her through procedures she had not previously been exposed to:

**Student N**

1. My mentor contacted the NNU to discuss things with them.
2. They suggested that we check the [baby's] capillary blood sugar level.
3. My mentor showed me and talked me through how to do this because I hadn't done it before.

(Student midwife N, audio-diary, day 3)

The student seems to have been influenced positively by the mentor thinking out loud whilst concurrently demonstrating a technique.

Following involvement in a Caesarean section for fetal distress, Student N reveals the support she felt from the mentor's presence:

**Student N**

1. [My mentor] was right there behind me,
2. reminding me, guiding me.
3. Again, trying to help me overcome my big fear of messing up

(Student N, audio-diary, p18)

It is the guidance in combination with the mentor being in close proximity to the student which appears to have assisted the student to overcome her fears. In the following diary extract, Student A describes the comforting effect of the mentor physically moving to her side during a catheterisation of a woman in theatre, prior to a Caesarean section.

**Student A**

1. ...I didn't expect to (hh) reach the bladder so quickly...
2. I got a bit of the shakes (0.5)...
3. '[My mentor] just came to my side'
4. And she calmed me down with a look....
5. 'You can do this. I know you can!' 

(Student A, audio-diary)
The student also articulates the benefit to her confidence of the mentor's "look" and the semiotic mediation which apparently spurred the student midwife on to continue with inserting the urinary catheter.

Student H

1 We finished all our visits about 2 o'clock this afternoon
2 so um we went back to the office at [the] um antenatal clinic
3 and (■) [my mentor] um (having talked about suturing earlier;
4 'my lack of experience of suturing')
5 we decided we would suture a sponge, you know, the ones that look like pink toast!...
6 >So (■) I was suturing a sponge to day but it was really good<.
7 We were doing it when it was dry
8 >and then realising it would be much easier if it was wet<.
9 So that was fun. We did that. That was really interesting.
10 And [my mentor] has let me bring the stuff home with me
11 and I'm going to practice on some chicken, (hh) um
12 'Because we're not allowed to do that at University'.
(Student H, audio-diary)

Planned learning opportunities (Deliberative learning) Eraut (2000)
The above discourse demonstrates the level of interest that was attained by the student from use of creative methods of teaching (in this case, using sponges and chicken for practising suturing). The benefits of learning through touch are reiterated and the student vocalises enthusiasm for continuing the practising of the skills at home. Positive language is used, for example, "good", "interesting" and "fun" to describe the learning, which was apparently preceded by discussions about suturing following postnatal visits in the community. This is an example of creation of a positive learning environment for the student.

Student H continued

1 'And then (■) we also audited some notes as well, y'know,
2 She wanted me to have an idea about you know, midwifery supervisory duties
3 and all that kind of thing.
4 And that was interesting...
5 Um, so we finished the day doing that:
6 'and I think I finished about 3.30.
7 So um that was (■) a very varied day but very interesting.
Planned learning opportunities (Deliberative learning) Eraut (2000)

The student suggests that the variety of aspects of midwifery shared by the mentor were what contributed to valuable learning. The ‘auditing’ of client notes and examining qualified midwives’ record keeping appeared to make an impact on the student, which she records three times as being “interesting”. The following student midwife also remarks on opportunistic learning which emerged through spontaneous discussions in practice:

Student A

1 [My mentor] has begun to discuss with me sort of “what-if” scenarios (*)
2 >because she knows that these (*) complicated deliveries (*) are eating away
3 at the back of my mind .hh<
4 I mean, would I notice, you know, a subtle (*) deviance from the normal?
5 So these “what-if” scenarios are, are (*) really >being a big help at the moment<
(Student A, audio-diary, p 2).

Planned learning opportunities (Deliberative learning)

The student vocalises lack of confidence in observing more “subtle” changes in women who develop complications in labour. The “what-if” scenarios demonstrate a means of the mentor tailoring learning to this student’s individual needs. The fact that complicated births were “eating away” at the back of this student’s mind suggests the hidden anxiety experienced by the student. The discourse is an example of inter-mental learning and demonstrates the power of the dyad for targeting specific clinical learning needs.

The next student describes how the mentor lets her perform her first episiotomy, but with supportive verbal guidance and use of non-verbal communication, for example, smiling. The student was in delivery suite.

Student A

1 It became obvious (*) that this lady was going to need an episiotomy (0.8)
2 I have (*) actually done one episiotomy, the cutting itself,
3 but I’d never infiltrated (hh) and [my mentor] (*) just looked over.
4 We actually both looked at each other at the same time<
5 this lady is going to need an episiotomy.
6 ‘So, [my mentor] went through the episiotomy step by step.
7 I was very, very nervous’,
8 but this was a big hurdle that I knew I had to overcome (0.5).
9 I think I was (*) looking forward to it in one way (*) dreading it in another.
10 >It’s not the most natural thing in the world to do to somebody<.
12 [My mentor] was very patient (·) very, ve(h)ry patient(hhh)nt.
13 The needle came out at one point (·) and she just, I mean,
14 at that point, you'd think she's expect me to hand it over<,
15 but she has this look, this look says "you can do it, (·)carry on"
16 and I did carry on. I did a successful episiotomy!
17 The baby was delivered – fantastic APGAR of ten at one minute.
18 >And it was so rewarding<.
19 When you look over, and [my mentor] was smiling at me
20 as if to say hh God “Didn’t we do well?”
21 >It was absolutely fantastic<.
22 She told me that I was to be >really proud of myself<.
   (Student midwife A, audio-diary, p4)

Engagement in decision-making, problem solving, planned informal learning
(Deliberative learning)

Once again, the student emphasises the importance for new techniques to be explained
"step by step". The patience of the mentor was praised and it seems that this quiet
waiting enabled the student to continue when her instinct (and level of clinical
confidence) would normally have precluded this.

Semiotic mediation (Vygotsky 1978)

Mediation through differing signs occurred at several points in this discourse. The fact
that it ‘became obvious’ that the woman needed an episiotomy revealed the student’s
knowledge of the perineum in the second stage of labour. The mentor then "looked
over" in a seemingly meaningful way. The mentor’s next look, which apparently
encouraged the student to continue, seemed to provide the turning point for this student
midwife. The student needed to take control of her emotions, including fear. The smile
from the mentor then reinforced the successful completion of this task for the student.
This articulation of semiotic mediation demonstrates quite sophisticated supervision of
the student’s practice learning.

Later in Student A’s audio-diary, inter-actional is again described as emerging through
semiotic mediation, this time during the delivery of twins:

Student A

1 [My mentor] gave me clear guidelines um
2 and ur (·) I really did try my best to remember them.
3 Again, with the second twin...to check for a cord prolapse, which I did.
Engagement in decision-making, problem solving, planned informal learning (Deliberative learning) Eraut (2000)

The student describes how she is being guided into more autonomous practice. The working relationship in this dyad appeared to be based on honesty and trust. This led to the student recognising that it was time to trust her own judgement. The practice episode was, however, preluded by the giving of "clear guidelines" by the midwife mentor. This is evidence of planning of non-formal learning.

Semiotic mediation (Vygotsky 1978)

The student reads the 'sign' from the mentor, which was quite subtle. In not checking for the cord after the student midwife, the midwife non-verbally indicated that the student was competent enough to proceed independently. This learning episode is an example of coaching.

The next student (N) was half way through an 18 month midwifery degree programme-a placement on delivery suite. The extract opens immediately following a normal birth. The woman was lying on the bed on her right side (right lateral position). It was the woman's first baby and her mother was in the delivery room.

Student N
1 >[The woman] did absolutely brilliantly<,
2 getting the placenta out as well (.h).
3 The membranes (') were (') well behind
4 and my mentor showed me a new technique
5 to ensure that the membranes(.h) aren't broken off at all
6 >during the (') removal of the placental membranes<,
7 by gently moving my, my hand up and down
8 as I did controlled cord traction (.hh)
9 after the, after the majority of the placenta had come out...
10 >This baby is the smallest baby that I've delivered yet<(') at 5 lbs 12 ozs.
11 And it was surprising to see (') how different a small baby is to deliver
12 'than a bigger baby', because there isn't much to hold on to(.hh)
13 My mentor again was very supportive.
14 'Because it was a different position for me'
and made sure that I was OK...
but letting me get on and do it on my own.

(Student N, audio-diary)

Review of past actions, communications, experiences (Deliberative Learning)

ERAUT (2000)

The student uses quite long sentences. She consistently describes 'woman-centred' care and seems less focused on herself than, for example, Student L and Student J. This quote provides a good example of the nature of experiential learning, with a recording of actual observations and the mentor's role. Explicit knowledge and skills are vocalised. There is also a description of how the student copes with multi-tasking. This is often very much a 'taken-for-granted' element of care provision.

Student N describes how she is absorbing new facts and knowledge. Her use of the word "surprising" suggests how a real-life situation has impacted on her learning. The student seems to be relying on the senses in her use of the terms; "see" and "hold".

The student portrays an awareness of teaching style of the mentor and seems respectful of gradually being enabled to move towards more autonomous practice.

Student A, in her following diary entry, builds on her observation of how the mentor withdrew from the direct care, to let the student take a leading role under supervision.

<table>
<thead>
<tr>
<th>Student A</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 We had a lovely normal delivery where I had actually managed most of the care.</td>
</tr>
<tr>
<td>2 It’s becoming more second nature now.</td>
</tr>
<tr>
<td>3 She left a lot of the delivery to me-even, I’ve noticed, leaving a lot of</td>
</tr>
<tr>
<td>4 —even guiding the pushing.</td>
</tr>
<tr>
<td>5 <em>She was leaving a lot of that guidance to me</em>-</td>
</tr>
<tr>
<td>6 taking more and more of a back seat-</td>
</tr>
<tr>
<td>7 &gt;taking more of the role of the midwife who was just going to take the baby&lt;,</td>
</tr>
<tr>
<td>8 whereas I was the midwife who was delivering and taking care of the woman.</td>
</tr>
<tr>
<td>9 I just couldn’t even begin to imagine myself to be doing this</td>
</tr>
<tr>
<td>10 when I came on the ward 13 weeks ago.</td>
</tr>
<tr>
<td>11 Not in my wildest dreams did I imagine I’d get to this stage so quickly.</td>
</tr>
<tr>
<td>12 I really do believe it has a lot to do with the mentorship on this ward;</td>
</tr>
<tr>
<td>13 the support and encouragement.</td>
</tr>
<tr>
<td>14 [My mentor] has been a rock-an absolute rock.</td>
</tr>
</tbody>
</table>

(Student A, audio-diary, p 18).
Engagement in decision-making and problem solving (Deliberative learning)
Eraut (2000)

Student A describes how the mentor took a “back seat”, so enabling the student to "manage" the second stage of labour and "guide" the woman's pushing. The student recaps on her journey, in which she had started out with minimal confidence in her practice. She alludes to the pivotal role of the mentor in assisting in accelerating the clinical learning in delivery suite.

At the end of the placement, the student expresses the boost in her clinical confidence which is attributed to successful mentorship:

1...the amount I've learnt in this 13 weeks is huge!
2 I may have said it before,
3 but I am leaving Labour Ward now a different person to when I started.
4 More than ever now, I still want to be a midwife.
5 And that's what my mentor's done for me.
6 She's not only boosted my confidence
7 ...she's made me want to be a midwife even more than I did...
8 I want to be a midwife, just like [my mentor]
(Student A, audio-diary, p24)

Student A has expressed through her accounts, the positive changes she felt in her professional practice due to responsiveness on the part of the mentor. The enthusiasm of the student was audible and contrasts starkly with this student's first diary entry, in which she used metaphors for drowning and feeling like a fish out of water in the operating theatre. The mentor appeared to mentor in the true sense of the word and did appear to operate by incrementally increasing the 'student's stages towards autonomy' (Pope et al, 2003) by scaffolding learning activities and then fading in response to the individual student's needs.
5.3 Summary
This chapter has presented extracts from raw data and integrated student midwives' learning discourses with theory. To present both linguistic features of the narratives and perceived teaching and learning strategies, several theoretical frameworks have been combined. The summary tables show quite clearly that learning for the majority of student midwives in the sample remained in a reactive mode. The transcribed data suggest learning was partial and therefore fragmented. Although some aspects of apprenticeship models were reported to be used by mentors, there is minimal evidence of coaching being used as a fading strategy. This suggests that deliberative learning was not achieved by the majority of student midwives in the sample.

As stated in Chapter Four, it is not possible to generalise from these findings as the numbers of participants are small. Analysis of the data has, however, revealed strategies for instruction and varied styles of supervision used by these students' named mentors on a daily basis. The use of the transcription method for the discourses presents speech patterns and displays where students hesitated, struggled or suggested that they learnt for the future.

The following chapter is a discussion, the intention of which is to formally relate the theoretical frameworks and literature with the analysed discourses from the data set.
CHAPTER SIX

DISCUSSION

It is through the promotion of professional conversations that meaningful constructions are made from the language with which we clothe our perceptions and actions.


6.1 Introduction

It is Eraut's (2000) thoughts on personal knowledge (relying on tacit and largely experiential elements) which marries well with the data from the sample of audio-diaries in this study. However, whilst Eraut focuses on personal knowing, Lave and Wenger (1991) oppose this theory, suggesting it is only through situated practice (moving from legitimate peripheral participation to central within a community of practice) that successful learning occurs. This thesis has argued that, in fact, it is the mentor/student dyad which needs to be socially re-positioned (Phillips et al, 2002) as this relationship is pivotal to achievement of deliberative modes of learning. Eraut's typology of non-formal learning seems incomplete for this purpose. Firstly, tacit knowing is not explicitly included in the typology, implying that this form of knowledge cannot be taught. Secondly, Eraut (2000) aimed to 'clarify the multiple meanings' of terms used to describe non-formal learning but the typology does not entirely achieve this. Lastly, the data selected for this thesis provide evidence that Eraut's model is not detailed enough to contribute to the epistemology of midwifery, as many subtle nuances are concealed within habits and customs around birth (a major life event).

The aim of the ensuing discussion is to bring together Eraut's typology of non-formal learning (see Figure 8, p 93) and to use the raw data presented in Chapter Five, in combination with significant literature on the subject. This includes Vygotsky's (1978) cognitive model; the Zone of Proximal Development (ZPD). His philosophical contribution to learning has demonstrated that learning cannot occur in a vacuum but requires cognitive apprenticeship structures to be used, thus enhancing development and higher cognitive abilities of learners. Vygotsky's (1956, 1978) educational theories on higher cognitive ability and the role of the mentor for demarcating and working within the ZPD provide intrinsic value to the arguments put forward in this thesis, namely, that the
dyad comprising a mentor and student need to use a wider range of tools, including language, to enhance the possibility for meta-cognitive behaviours to flourish.

The central research question is:
How is practical knowledge transferred from mentor to student?

The headings and sub-headings within Eraut’s non-formal learning typology provide the underpinning framework for addressing the research objectives:

Through analysing the students’ narratives (using discourse analysis), the objectives were:

1. To explore how practical craft knowledge is generated through the mentor relationship
2. To uncover the range of strategies the mentors use to support non-formal learning
3. To explore the language students employ to disclose their knowledge and to describe more alternative forms of learning
4. To examine how the institutional context influences the promotion of the knowledge which underpins practice.

The student data indicate that the non-formal, un-stated knowledge is very important for the ongoing professional identity of the midwife. Analysis of the discourses suggests that if the non-formal aspects of learning are not articulated and codified, learning for many student midwives remains in a reactive mode (Eraut, 2002). This has implications, not only for student learning but for clinical outcomes, specifically antenatal, labour and postnatal care involving women, babies and families (Hunter, 2003). This thesis has also argued that the mentor/student dyads currently perform in the margins of clinical episodes as the true value and impact remains hidden and therefore minimally recognised. The research evidence presented demonstrates the investment needed in mentoring as a craft (Spouse, 2003). Additionally, the mentor is so pivotal to the whole clinical learning process that mentoring should be re-visioned so that it is placed centrally within each clinical learning environment and in policy making more broadly.

The extracts from the data displayed in Chapter Five serve to illustrate that there was no structure or model for supporting non-formal learning in midwifery practice. The
discourses illustrated the daily struggle for students to attempt to describe their experiential learning. Some students superficially made an attempt at vocalising learning agreements early in placements, suggesting objectives and goals to meet summative assessment criteria. With little preparation and varied negotiating skills, students describe their difficulties in navigating the 'hidden curriculum'. The central problem seems to be the lack of space within the clinical curriculum:

- a) for students to share their fears and genuine concerns, for example, through metaphors (Froggatt, 1998) and free-flow description of practice (Eraut et al., 1995)

- b) for midwife mentors to use this information and share relevant experiential stories, promoting reflection on and in practice.

This links with Phillips et al's work (2002) which explores the importance of formation of professional identity through use of new models of reflection. This includes use of learning journals, (in particular, audio-diaries for recording learning in practice) to aid meta-cognition (Moon, 1999). However, the audio-diaries largely stimulated reflection on action as opposed to reflection in action. Other tools were notable for triggering dialogue that promoted more immediate learning in practice settings, for example: the use of visual aids such as a doll and pelvis (for mechanisms of birth) or wet sponges for demonstrating suturing techniques.

As Smith (1999) purports, the over-concern with institutional content-focused learning leaves little room for the 'un-formal', 'not intended' learning (Jarvis 1994, p108) and for the indirect learning so often occurring in midwifery practice (Chamberlain, 1997). The latent knowledge needs active construction (Field, 2004) but to make the professional artistry more visible, and less 'elusive' (Stockhausen, 2006) language as a tool for transmitting the craft aspects of a profession needs to be more fully exploited. One strength of this research has been the capturing of the 'messiness' of practice alongside direct reactions of student midwives to the non-linear trajectories in every practice setting. This has included narratives from student midwives placed in remote community settings and encompasses expressed challenges for students studying on degree and diploma programmes who performed visits to women's homes on their own (for example, Student G, Chapter 5, p 178).
Dalton's (2005) conceptual model of practice domains has been informative in showing how clinical space was divided up according to student nurses. It presented a platform to examine how students appeared to navigate the clinical spaces on their own. Some students in my sample described their positioning in the clinical arena on a given day. This is particularly with reference to the expressed language of fear in the diaries. Students' linguistic descriptions of how mentors guided them through the spaces, such as 'transitional' into 'intimate', provided new information as to the effects of hesitation and fluctuating levels of confidence in a variety of clinical environments. Similar findings have been reported by Spouse (2001) and link with research on the 'imposter phenomenon' (Zorn, 2005). There is a debate as to whether this is a psychological trait or a cultural syndrome. Some student midwives in my study certainly described ritualistic practices. These may have stemmed from shared learned behaviour emanating from modelling practitioners and peers in the range of clinical settings.

Part One of this discussion has a focus on the language the student midwives used to describe how they acquired their craft knowledge within a socio-cultural framework. Of particular interest for the purposes of this thesis is the language around confidence (whether described as stable, rising or waning) and the language of fear, coping (for example with first experiences or emergencies) and also expression of tacit knowing in a range of clinical settings.

Part Two is a discussion of the techniques used by mentors as reported by students and evidenced in their accounts. This layout reflects the structure of the literature review and analysis chapter. The focus is on how scaffolding of students' learning was planned, managed and reviewed. Varying levels of clinical support were offered and yet all student midwives when qualified will be on the same part of the professional register. Two key tenets which have emerged from the data and literature will be drawn on, namely: Scaffolding of learning through confederation (where the expert practitioner/mentor takes the lead) and fading through coaching (where the student begins to take the lead).

Part Three has a focus on methods of mediation of non-formal learning in contemporary institutional contexts and the nature of situated learning. The dynamics of 'social episodes' are examined. How did students describe how their learning actually took
place? Restrictive and promoting factors which emerged from the data are addressed and ways of assisting students to absorb non-formal learning in midwifery are put forward. Additionally, ways to assist mentors to mobilise non-formal aspects and craft knowledge more efficiently are suggested.
6.2 Part One: The language students employed to disclose their knowledge and to describe their clinical learning and interactions with mentors

The selected discourses portray the significance of non-formal learning for this sample of student midwives. Some students' expressions of uncertainty in dealing with ambiguity reveal the need for far more in-depth communication (within the mentor/student dyad) to occur in practice. These findings are congruent with those of Spouse (2003), Phillips et al (2002) and Brigley and Robbé (2005). The design of the latter study was significant because the key participants (surgeon educators, equivalent to mentors and senior house officers as learners) were observed working in dyads. Although the study has limitations, dyadic learning interactions are missing in much of the educational literature so the research provides relevant information. The isolation of the mentor/student dyads in my midwifery education study has enabled testing of Vygotsky’s learning theories (1956, 1978).

The dearth of in-depth practice-focused discussions within some dyads provides cause for concern about how deliberative, intentional and therefore how active the learning was. The diaries proved to be an excellent tool for unearthing student midwives' lived experiences of learning, which had previously been unspoken.

Eraut’s (2000) typology of non-formal learning provided a valuable framework. However, Eraut neglected to delineate how learners could move from reactive to deliberative modes of learning. Despite designing what initially seems a progressive typology of non-formal learning, the definitions need more clarity. The characteristics and attributes of non-formal learning also need to be defined for practical use to advance learning. For example, Eraut posits that, for deliberative learning to occur there needs to be:

Engagement in: decision-making,
problem-solving, and
planned informal learning
(from Eraut, 2000, p 116)

Several problems arise here, as informal learning is rarely possible to be planned in advance (Marsick and Watkins, 1990). Additionally, without a standardised model to
draw on, learning seemed to remain partial. This confirms the lack of clarity of terms to
describe any learning which is not formally organised. The significance of memory and
learning are also frequently overlooked. Problems with codifying non-formal aspects of
learning are heightened by the fact that there is little indication as to what the
characteristics of deliberative learning are. With no explicit examples, the tacit
components of knowing remain un-codified and therefore hidden.

The diagram (see Figure 11) on the following page illustrates the varied forms of
language which emerged in my research. The three main categories show the linguistic
elements of practice which are largely unrecorded:
Stories and metaphors
Semiotics (for example, non-verbal signs)
Formative assessment processes.

The data in my research also indicate that some language was semi-recorded, for
example:
Handovers and reports
Ward rounds (particularly in the neonatal unit and antenatal ward)
Portfolios as these often record isolated events, as opposed to everyday practice.
Figure 11. Unrecorded linguistic elements of midwifery practice
The following sections use for their headings the range of ‘languages’ related through the diaries, for example, of fear, negotiation and hesitation.

6.2.1 Language of fear

The repetition of Student A in her use of words such as being terrified and frightened, illustrates the impact of fear, possibly blocking learning. Much of the fear for this student emanated from an experience in her first year, in which a baby was born with an unexpectedly low Apgar score and was therefore in a very poor condition. Eraut (2000) refers to episodic memory (as opposed to semantic memory). It would be interesting to know whether the student was debriefed in any way following this event as her anxiety level seemed high, considering her actual expected level of responsibility in theatre.

The feelings of uncertainty and anxiety links with the work of Thompson and Hepburn (2003) who found that this ‘self-handicapping behaviour’ led to reduced practice effort and performance. In later diary entries, the student was able to articulate the benefits of ‘offloading’ her fears and emotions to the mentor. This raises the question of whether some anxiety is both helpful and necessary in professional practice (Bion, 1962).

Most students in the sample expanded on how they coped in quite challenging situations. As Eraut et al. noted (2002), health care professionals often work in a ‘pressure cooker’ environment. Some student midwives attempted to override the ‘messiness’ of clinical practice by using the language of containment. For example, Student N described having mixed feelings when visiting the Neonatal Unit:

“I hope that I’m going to be able to build on the support and the psychological needs of the women. Even though I feel a little bit out of my depth”.

(Student N, Neonatal Unit discourse)

Student A repeatedly used words such as “terrified” to describe her fear in the operating theatre situation and confirmed this by using metaphors of drowning and feeling out of her depth. The metaphors around fear were often suggestive of the unpredictable nature of midwifery.

How healthcare students managed their anxiety appears to be indicative of how they coped with challenging learning situations (Menzies, 1960) and also how they used the
clinical ‘space’ (Dalton, 2005). The emotional nature of experiential learning was rarely shared with mentors and yet encouragement to ‘name the problem’ and ‘sharing the discovery’ has been advocated in Taylor’s model of reflection (1987). Fish et al’s (1990) model, in contrast seems to focus more specifically on finding ways to extract the ‘hidden’. This is particularly evident in the ‘substratum strand’ which is sandwiched between ‘retrospective’ and ‘connective’ strands of reflection.

Some dramatic language was used when student midwives disclosed their innermost fears (describing what was unspoken) when reflecting on clinical emergencies. For example, Student A exclaimed “I’ve killed the baby” to herself when the umbilical cord snapped during the third stage of labour. Some language was highly colloquial but helpful to enable profile building of student midwives to inform curriculum innovations as to how they are prepared for active participation during emergencies or unexpected events.

A continuum of fear was expressed, ranging from “quite anxious” (Student B) to “terrified” and “totally out of depth” (Student A).

Mild fear was also portrayed through words such as:

“I was a bit worried” (Student A)

“It’s been quite stressful” (Student N)

“It got a bit hairy” (Student L)

More profound fear was expressed with exclamations such as:

“I shat myself!” (Student L)

“It really does frighten me” (Student A)

6.2.2 Language of containment

As found in Froggatt’s (1998) study, student midwives in my sample implied there was a perceived need to put a ‘lid on the container’ in maternity settings. The care episodes in environments such as the antenatal ward and delivery suite were often performed directly in front of women who were users of the service. This mitigated against unprofessional confrontation in complex and sometimes sensitive situations. Anger towards mentors was rarely directly expressed to the named mentors themselves and
yet some students appeared furious. Student F directed some anger at herself "I kicked myself". This aggression inherent in this language and repetition probably portrays the anger with the midwifery team and overarching system. Bion's (1962) theories of containment are relevant in modern health service environments. Disgruntlement sometimes dissipated when student midwives were praised by their mentors (and occasionally the women). The students seemed to feel a need to protect their mentors and resisted confrontation. Was this because they were 'blocked' by the mentors (due, for example, to lack of debriefing time) or to promote themselves in a good light for the purposes of assessment?

The 'gallows humour' described by Smith III and Kleinman (1989) used by medical students, was one way to contain emotions, for example, Student L “… [I] need to learn to pull harder!” The audio-diaries captured laughter in the form of chuckles, exclamations such as “hah!” The telling of 'dirty' jokes during dissection in a medical school was one way for medical students to cope with dissection work (Lemp, 2005). This is an example of backstage behaviour described by Silen-Lipponen et al (2004).

The description of shoulder dystocia occurring at birth being "hairy" by Student L displayed her fear. The fact that the student retreated and deferred to the midwife mentor to perform the actual delivery indicates that hesitation was sometimes used as a strategy for containment. This 'language of hesitation' emerged when student midwives expressed that they should have been more involved in clinical situations. For example, Student A described the shift on a delivery suite as “busy”. A woman who had recently delivered her baby needed perineal sutures:

"...I felt a bit guilty because really I should have done the suturing"
(Student A, p 4).

The legitimacy of the student’s participation appears to have been compromised (Lave and Wenger 1991) thus learning remained in a reactive mode (Eraut, 2000).

When coping with highly sensitive issues, student midwives were often found to hesitate and sounded tentative on tape. Students sometimes described their experience of looking after women having late terminations. The language around late termination of pregnancy was similar for both pre-registration shortened students and those on three
and four year pre-registration midwifery programmes. The stage of programme did not appear to be significant in terms of experience of students but the data indicate the need for additional training in this field. As termination still remains a ‘taboo’ area (Kitzinger, 2005), it would appear that generally mentors went through the ‘procedure’ with student midwives. This means that psychological care for women and families was possibly lacking from midwives and subsequently, their students. Additionally, student midwives lose out on the observation and role modelling of sensitive communication for women at an extremely stressful time. This is summarised by Student C, who said of terminations:

“Something, as midwives, we need to get to grips with” (Student C).

The routinisation described by Eraut (2000) seemed to hamper the learning and impede chances for meta-cognition to flourish. Additionally, adherence to the ‘procedure’ was likely to have restricted creativity and active learning for the student midwives (Marsick and Watkins 1990, Spouse, 2001) and became a strategy to ‘contain’ feelings.

The student midwives’ language around induction of labour also raises cause for concern:

“[The woman] had four Prostins..I put her on the monitor..My mentor was really busy so I’ve just run about and cared for [the woman]”

(Student Midwife K, p 3).

The quote illustrates an example of learning remaining in a reactive mode only, delaying the students’ development towards more autonomous practice (Begley 2001). As found by Melia (1984), students tended to socialise into a ‘professional’ version of practice which centred on a ‘workload approach’. Menzies’ (1960) seminal study of student nurses also demonstrated a similar ‘systematic avoidance’ by students of difficult situations to bypass managing their implicit anxieties. The role of the mentor is evidently vital in sensitive situations to prevent student midwives resorting to coping strategies such as ‘doing the obs’ (Davies and Atkinson, 1991) and other routines to override anxiety attached to practice.
6.2.3 Language of intrusion

The fact that Student A felt she was "intruding" in the operating theatre suggests that the student felt very much on the periphery of the practice environment (Lave and Wenger 1991). Her comment, "all eyes are on you" suggests that she became self-absorbed and therefore partially blinkered to the complexity of the setting. As Eraut (2000) suggests, one has to go through complex meta-cognitive processes to expand beyond self-awareness. This process of expanding beyond self-absorption seems to have been slowed by what Eraut (2000) terms 'crowded contexts'. The student confirms this by saying there were "so many people". It would appear that unconscious effects of previous experiences led to implicit learning (Eraut, 2000).

Student A later describes the observation and subsequent learning that comes from quietly observing the mentor from the 'transitional space' (Dalton, 2005). As Foucault suggests, this space can be used for 'uninterrupted surveillance' prior to entering more 'intimate' spaces. This, however, is not a linear process in midwifery. Situated learning theories support this (Lave and Wenger, 1991). The peripheral nature of Student A's participation is condensed into one sentence:

"I felt really detached; I thought, I know I have my part to play"
(Student A, diary, Line 13).

Although scaffolding of the learning occurred with the mentor encouraging reversal of roles, learning appeared to remain implicit (Eraut, 2000) and the discourse suggests it remained in an intra-mental mode (Vygotsky, 1978). This is described as the cognitive function that goes on 'inside one's own head' (Spouse 2003, p 200) such as individual problem solving, as opposed to inter-mental modes which involve using language to mediate learning with a mentor.

Student N goes on to describe her feelings of powerlessness in the face of exposure to multi-professional working. Students in this sample often provided contextual detail regarding how they interacted with doctors (for example, obstetricians, general practitioners, anaesthetists and paediatricians). The accounts provide interesting pointers concerning how information is conveyed to women. Taylor and White (2000) and more recently, Mulholland et al (2005) have explored the nature of inter-professional learning. Using case study methodology, it was identified that learning materials need to
be developed across disciplines in a range of formats. Commonalities and differences in professional roles need to perhaps be made more explicit to avoid role conflict (Handy 1990, Best 2005).

Formal briefing and debriefing within a ‘buddy’ scheme is apparently common practice in the Australian model of nurse education (Mulholland et al 2005). In a physiotherapy model described by Currens and Bithell (2003) two physiotherapy students were placed with one educator. Students were interviewed and generally perceived that the model promoted a helpful exchange of ideas leading to new knowledge. Some students identified the emotional support that was generated through this peer system.

Informal student support structures did not seem particularly evident in my sample of student midwives, unlike student nurses’ experiences of peer narratives to encourage articulation of storied experience Spouse’s (1999). Several students, for example, Student F and Student K described the powerful learning which occurred when a small cohort of peers was formally given a clinical teaching session by the midwifery link tutor. It was the structured nature of the sessions that seemed to lead to a positive learning experience.

There appeared to be challenges inherent for students in this sample in being supernumerary to the midwifery workforce. A sense of powerlessness was sometimes expressed, for example by Student N, who described an experience of being present at a ventouse birth. Insufficient explanations had allegedly been provided to the parents by medical colleagues. Student N expressed confusion and verbal anger in her audio-diary. The detachment described resulted in the student’s learning remaining in a reactive mode. Generally, anger and despondency with how a situation was handled by professionals seemed to block learning. As revealed by Student D, learning from mistakes in front of other health care professionals led to a sense of humiliation.

Following the apparently traumatic birth Student N stated:

“I hope I have learnt from this situation to speak up a bit more”
(Student N, diary p9)
The need to be an advocate for women and partners was emphasised through observing other health care professionals. Strong language was used to describe the partner being "shell-shocked" but the student describes her powerlessness to intervene. This may be another example of crowded contexts blocking learning (Eraut, 2000). Use of clinical space as conceptualised by Dalton (2005) provides a confusing picture as the student appeared to hover on the fringes of the transition space within the shared domain.

Perceived invisibility inherent in having student status was sometimes vocalised in my data set:

"I was used as one of the numbers"
Student F, audio-diary, seventh entry.

The diary data concerning the supernumerary nature of learning indicate that student midwives need more 'hands on' experience (Begley 2005), longer clinical placements in maternity settings, more than two days per week in practice and more conversations occurring immediately after events occur in practice. As Gibbs and Simpson (2004) purport, meta-cognition increases with detailed, personalised feedback. Midgley (2006) asserts that the personalisation necessary for deliberative learning to occur is not achievable in the current climate. I would argue that if the mentor/student dyad was positioned more centrally, and protected time honoured for formative conversations, personalised feedback would be achievable. This has started to be addressed (NMC 2006).

6.2.4 Language of 'tacit understanding'
Following a routine examination to check a woman's uterus was well contracted, Student B expressed her tacit knowledge in stating; "it felt different" and not "quite right". Eraut (2000) refers to this feeling of not being quite right as implicit monitoring. This is described as being a meta-cognitive process which often triggers immediate action or reflection followed by rapid action. The fact that it was "some time" before the midwife approached the bedside implies that the student had been hesitant in expressing the possible urgency of the situation. This incident, which describes a post partum haemorrhage, raises questions at several levels. The first is the problem of the student's confidence and competence in providing emergency measures in the absence of a
midwife. There is also the issue of risk assessment (involving clinical governance protocols) and correctly following evidence based guidelines and procedures (QAA, 2001). A further concern is that the student was apparently left with the woman, with minimal direct supervision. The reason for delay in implementing treatment to the woman appeared to be due to severe short staffing on the postnatal ward. Tensions seem to arise in the diary around the woman's clinical needs and the student's learning needs. Learning evidently remained in an implicit mode, due to the impact of 'unconscious effects' of Student B's experience (Eraut, 2000).

The language used by this student reveals her uncertainty, shock and vulnerability. Although the student disclosed some clinical findings, the knowledge remained reactive because the perceived mediation did not occur and debriefing was not built into the clinical event. As suggested by Bruner (1985) a prerequisite to helping a learner work within their zone of proximal development is judgement about their capabilities so that mediation is appropriate. Problem solving with the mentor was lacking and therefore the social level of learning was absent. This meant that minimal intra-mental learning occurred (Vygotsky, 1978). The implicit monitoring (Eraut, 2000) was characterised by interiorisation (Polanyi, 1967).

Student G, whose placement was in the community reflected on a visit and said:

"There was something more..."

The student used prior experience and implicit linking to diagnose a possible depressive disorder of a woman. This narrative provides useful information as the student describes visiting the woman on her own and with her mentor. It is useful to have records of the student midwife's spontaneous reflections of visiting women independently. This draws attention to the potential for valuable learning as there is a paucity of literature on 'confidence cases' and independent community visiting from the students' perspective. This has implications for assessment and feeding back on experience. Phillips et al's transformational model (2002) highlights the importance of debriefing students and selective appropriation of the culture. These lost learning opportunities had a potential negative impact on care because students had minimal feedback and therefore a lack of preparation for future similar events. Debriefing has potential to help accommodation of new knowledge into schema. It needs to be systematic and analytical to maximize personalization of the learning. Active reviewing of practice and combined with
debriefing can enrich learning, offering access to intuitive and tacit knowledge (Phillips et al., 2002).

Student G also pronounced:

“You do have a sixth sense that something isn’t right”.

As Berg and Dahlberg (2001) revealed in their research involving Swedish midwives, a more integrated level of embodied knowledge was sometimes expressed by the midwives which, although referred to by some as intuition, was actually recognised by others as an ‘unparalleled tool’ to determine women’s needs and conditions. Whilst Student G had touched on the ‘midwife-sense’ (Berg and Dahlberg, 2001) or sensitivity, the learning once again remained in a reactive mode as practice-based discussions did not occur.

Benner (1984) purports that only experts possess this ‘intuitive grasp’ and ‘embodied intelligence’. I would suggest, from analysing these student midwives’ diary data, that some students, even in their second year, were demonstrating levels of practical and emotional intelligence (Freshwater, 2002) based on substantial practical know-how. As we can see from, for example, Student G, the more instinctive knowing that a woman in the community had postnatal illness “brewing” was seemingly overlooked by the qualified midwife mentor. The lack of probing by the mentor or discussion on the student’s observations mean that scaffolding of the learning did not occur and learning remained reactive.

The data indicate that some student midwives were ‘sifting and filtering’ information from women using multiple forms of knowledge, including self-knowledge (Ling and Luker, 2000). The authors of the study on health visitors’ intuitive awareness provided evidence that, as with the students in my sample, health professionals are often competent at defamiliarising the familiar but intuitive awareness is overlooked and often simply devalued. Benner (1987) suggests intuitive judgement is devalued in health care settings because lack of concrete evidence leads to disbelief. This links with theories of uncertainty. Student midwives therefore need to be proactive and to assist moving from a reactive to deliberative mode of knowing, should be encouraged to test out a range of descriptors.
with their mentors. This means feeling safe to test out the vocabularies necessary for the 'de-familiarisation' process within the dyad.

Benner (1987) asks: ‘Can we teach intuition?’ It would appear that the skill of viewing a whole situation with a learner and providing intensive feedback can enhance the artistry of practice. As found by Fessey (2002), the ability to make sense of complex situations which require intuitive decision-making needs to be valued and rewarded. The data from some student midwives in my study demonstrate that the skill of making intuitive judgements may not be recognised by the mentors themselves. Although Benner (1987) advocates for natural language to be encouraged to help sense-making within complex situations, I would assert that this is not achievable without a tool which could capture this language.

Student D described her “gut feeling” (line 4). As Belenky et al (1986) found, subjective knowledge is often centred on intuition and emotions and occurs at the stage before procedural knowledge is manifested. In connected knowing, women who were interviewed expressed less subjectivity. In her narrative, Student D expresses both shock and relief which she would have been willing to disclose to the mentor. Interiorisation and indwelling processes (Polanyi, 1967) were evident but due to lack of mentor-student contact time, immediate debriefing did not occur and learning subsequently remained reactive. The conversion of tacit knowing into explicit knowledge is said to be possible if mentors share their know-how through professional stories (Lowe, 2004). I would suggest that the drive to attain a level of explicit knowledge is actually too ambitious. Un-tapping of the tacit through assisting learners to use vocabularies to describe the non-formal learning (for example, during a formative assessment event, or through debriefing and journaling) may suggest a 'middle road' but one in which some transformative learning can occur. This ‘awareness’ is achieved through telling (Eraut 2000) and has potential to create and environment conducive to inter-mental learning (Vygotsky, 1978) through scaffolding of cognition.

Both Student B and Student D eloquently describe the difficulties with mediating learning effectively in emergency situations. Student F agonised about a baby that was an undiagnosed breech presentation. She suggests that she ignored the ‘silent alarm’ (Ling and Luker, 2000). The student later stressed that she “kicked herself” for not acting on
her interpretive knowledge and suspicion (Benner, 1987). Student F was not alerted to pattern recognition (Polanyi, 1967) and suggests she did not feel her knowledge was legitimate (Benner, 1987).

Student N and Student C qualified as nurses prior to undertaking shortened midwifery programmes. Although practising in very different contexts, the professional language used by both masked the underlying emotions these students were probably feeling. Sentences were more structured and there was very little personal information to describe the mentors or other professionals within the community of practice. This may be because of previously acknowledged difficulties in describing the nature taken-for-granted personal knowledge and know-how (Eraut et al, 1998).

Mastery of craft knowledge appeared to be challenging for all students in the sample, due to the indeterminate nature of the midwifery skills and practice knowledge (Delamont and Atkinson, 2001). The fact that mentors did not succeed in 'making all aspects of craft work visible' (McGee, 2002) made it extremely slippery for 'generating' knowledge (Cook and Seeley Brown, 1999). The practical maxims the students were working with were rarely explicit (except facial gestures of the mentor described by Student A). As Delamont and Atkinson (2001) purport, some skills are not teachable because they are elusive and have to therefore be intuited by the learner. This leads to students sometimes ending up in 'blind alleys', so acquiring skills through trial and error (Delamont and Atkinson, 2001). Role modelling mediated through legitimate peripheral participation needs to be consistent (Lave and Wenger, 2001) to help learners feel secure in the community of practice. This also helps avoid learning by making mistakes or by 'trial and error'. As Chamberlain (1997) found in her ethnographic study involving student midwives, learning through trial and error created anxiety for the learners. This resulted in students in her sample resorting to rule-bound behaviour.

6.2.5 Language of descriptive metaphor
For immediacy and effect, students sometimes used metaphors, which may have been repeated or adapted during a discourse. Metaphors were used, by some, to express the underlying working stress of feeling out of place and, perhaps, for Student A, a feeling of drowning. As Froggatt (1998) found, metaphors were an effective way for nurses to gain emotional control and to distance themselves in challenging situations. What is
interesting is that, linguistically, the students in my midwifery study sometimes use quite
dramatic descriptions of their feelings and yet this ‘drama’ is minimally related to the
mentor. This leads me to ask, to what extent does this hinder the creation of new
knowledge? Eraut (2000) maintains that awareness comes through ‘telling’, thus aiding
transformation of implicit learning to explicit knowledge. As Phillips et al (2002) found,
elucidating the tacit components of learning can lead to codification of the more ‘occult’
tentities of practice. There are training implications for mentors but metaphor workshops
could offer new ways to use students’ language to plan individual learning.

The use of metaphor is a potentially powerful means of expressing one’s lived
experience of practising, particularly if the placement involves admission of women and
babies who are ‘high-risk’. The selected extracts from the data provide a flavour of the
rawness of unedited language, much of which becomes filtered during the process of
presenting reflective papers and portfolios for assessment of practice. The appropriate
use of guided metaphor therefore has potential for use as a communication aid between
mentors and students. Other metaphors used by student midwives have helped to
portray some of the raw emotional expressions of stress within the latent discourses.
Examples of metaphors used to describe practice learning are provided below:

"I feel cocooned" (Student J)
"I was collared" (Student P)
"I felt like a fly on the wall, pushed to the back" (Student A)
"She [the woman] is a ticking time bomb" (Student G)
"My mentor has been a rock" (Student A)
"It was a baptism of fire" (Student M)
"We got on like a house on fire" (Student A)
"We’re like partners in crime" (Student A, p23)
"I seem to hit a wall" (Student H)
"I felt like the rug had been pulled from underneath me" (Student A, p20)
"I’ve got a bone to pick with you" (Student K)
"Most of the time, she [my mentor] is tied up" (Student F)
"I’m always tugging on her skirt" (Student A)
"You are a general dogs body for them [midwives]" (Student F)
Metaphors such as these can help provide a window onto the realities of relational learning in varied settings. They also help the learner to reformulate their experience into language, thereby participating in an inter-mental learning process (Vygotsky, 1978). This forms the base to accommodate this learning into new schema (Spouse, 2003).

6.2.6 Language of conflict and confusion
Student C had described her mentor as “very sort of hands on” which was a derogatory way of describing how the midwife “tended to make everything swollen” with reference to the perineum in the second stage of labour. There is evidence to show that excessive perineal interference is unnecessary (Stewart, 2005) and so the mentor was role modelling poor practice. The student actually said:

“I was also in a bit of conflict actually with, um, the third stage” (Student C).
This was connected with timing of cutting the umbilical cord by the mentor. Again, due to practising counter to evidence, the student exclaimed that the practice “freaks me out a bit” making her feel “quite twitched”.

Student D admitted to not knowing where the suture material (Vycril) was in the operating theatre. She also confessed to not knowing where to place the sterile green sheet, providing an example of learning from trial and error (Chamberlain, 1997, Delamont and Atkinson, 2001). The student expressed the need for effective sponsorship from her mentor but, unlike the sympathetic responsiveness of Student A’s mentor in theatre, this was not offered.

Student B described how she was forced to draw on ‘other’ knowledge (Belenky et al 1986) to cope with providing breastfeeding care and advice to a new mother. Although the discourse displays honest reflection on practice, the learning remained in a reactive mode. The student could have benefited from a more thorough debriefing regarding this challenging experience.

Student F described the conflict and confusion she felt when a baby was born by emergency Caesarean section as breech presentation had been undiagnosed by three midwives and not seen on ultrasound scan. The student’s self-castigation at not disclosing her ‘suspicions’ (Benner, 1984), was possibly harmful to the learning.
Although criticism is an essential element of connoisseurship (Eisner, 1998), it would appear that harsh criticism directed at oneself, which is not shared with a mentor, is, in fact, counterproductive. Learning, again, remained in a reactive mode.

As found by Montgomery and Collette (2001), who used diaries as a tool to capture women's learning on a programme, the unstructured format of the diary did encourage a cathartic outpouring from some student midwives (Allen, 1995). The diaries selected for my study show that a lack of expressed self-consciousness (Seale 1999) combined with provision of detailed context in a naturalistic inquiry can effectively achieve a degree of 'transferability' (Lincoln and Guba 1985) thereby contributing to the quality of a study.

Examples from the data display the different forms that uncertainty in practice may present as. Although French (2006) did not include midwives in her sample, the different types of uncertainty were similar. For example:

Pragmatic uncertainty is defined as a visible problem in practice, with potential for a workable solution. This category was found to create the most frustration for student midwives in my sample. A typical comment was:

"I need to have a chat with her [my mentor] to see what her rationale is"
(Student C).

Rarely did reflection on practice lead to 'workable solutions' (French, 2006).

6.2.7 Language of empathy
Both Student K and Student N used language denoting empathy for the women and families in their care but appeared to be anxious to retain a professional stance in front of their mentors. Student K visited a woman on her own in the community and had expected the woman to be well sixteen days postnatally. The student's language demonstrates her sensitivity. She described the woman as:

"...extremely low in mood...so I spent a lot of time with her today. But came out wondering whether I'd actually given her enough support or not" (Student K).
Empathy with the mentor was sometimes evident, for example, Student N. This only flourished if there was mutual respect within the dyad (Spouse, 2003) and a degree of intimacy in the mentoring relationship (Bennetts, 2002).

### 6.2.8 Language of negotiation

When student midwives and their mentors worked in tandem with women, there was a need for negotiation as to who would 'lead' in the episode of care. Student N stated that she wasn’t able to “fulfil the psychological needs” of a woman with a sick baby. Although she had previously qualified as a nurse, Student N seems to have selected to withdraw from the provision of psychological care, leaving this aspect to the mentor. The student suggests that she learnt for the future. Whilst the student found it a relief for the mentor to take over, the student could, perhaps have been encouraged to engage in some of the psychological input, with the mentor leading (Cope et al, 2000). With so little debriefing occurring after events such as these, it seems learning often remained in a reactive mode (Eraut, 2000).

Student K expressed initial difficulties in being out in the community with a new mentor for the day:

“She talks LOADS. She talks all the time...She’ll start a sentence and say, oh sorry...you do it...But it’s very difficult then to pick up a sentence she’s started”.

This frustration demonstrated that no agreement had been made as to who would lead on care prior to the visits. However, what appeared to be beneficial for the student’s learning was how the midwife provided information and presented informed choices to the women. Student K concedes:

“She’s given me a totally different take on information-giving in the community”.

This discourse showed recognition of learning opportunities but learning remained reactive (Eraut, 2000) due to lack of briefing prior to visits and debriefing with full discussions following visits.
6.2.9 Language of friendship and companionship

Student A makes constant referrals to her mentor throughout the audio-diary, portraying compatibility. For example:

"[We] have a very good working outlook. We know each other well now...It works...It's a good relationship"

The relational learning appeared to be consistently positive:

"Again, automatically [my mentor] and I just went in to work as a team together-like we do" (Student A).

Although Spouse (2003) and Magill-Cuerden (2005) advocate for mutual trust and friendship in the mentor dyad, Finnerty et al (2006) found that boundaries of friendship could blur and overlap, leading to almost iconic statements to describe the mentor. For example:

"[My mentor] is an angel" (Student A).

Directly opposing this praise for mentors, was occasional sarcasm by students. For example, Student K commented on the time the mentor spent on her new hands-free mobile phone set in the car, suggesting the midwife spent more time on the phone than attending postnatal visits in the community!

An overview of language-in-use

As Cook and Seely Brown (1999) assert, the language of ways of knowing needs to be conveyed between the master and apprentice so that knowledge may be untapped (Lam 2000) and 'amplified'. Stockhausen (2006) suggested a model for reflection-in-action to capture artistry in nursing practice. It was through exchange that descriptive terminology such as 'thug' and 'squishy' emerged from Stockhausen's (2006) research participants to describe sensations related to a patient's measurement equipment. The reason for citing the above examples of descriptive language in different settings is that the students in my data set did not use midwifery 'slang' to the extent I had expected. For example, midwives have traditionally passed on the knowing through their hands in an anecdotal way. This oral culture has encouraged vocabulary such as:
A 'boggy' uterus (if not well contracted)
A 'lip' of cervix (if the cervix is not quite fully dilated and is swollen/oedematous)
A 'sweep' of the membranes (to stimulate the onset of labour)
A 'flat' baby

Much tacit knowledge is passed across the midwifery profession through use of descriptive metaphors and maxims. Like superstitions, these maxims are rarely written down (particularly in key texts for midwives). Higgs and Titchen (2001) allude to the quest for certainty. Ethical dilemmas frequently present themselves but because problem-solving often occurs tacitly and remains unspoken by midwives and others in teams providing maternity care, student midwives sometimes agonise about events in practice. For example, Student N found there was a dilemma in information-giving to the mother of a sick baby in the neonatal unit. The student appeared to become increasingly distressed about the fact there were no clear answers to the myriad questions thrown up by a challenging case. Goom (2003) suggests use of logs of patient journeys for triggering learning. These can be used as case studies to promote discussion on ethical or other care dilemmas.

Karen Goodnough (2005) purports that generation of new knowledge can be achieved through 'co-generative' dialogue. With all participants participating in this form of shared dialogue, co-learning can occur. My research has shown that students need help to acquire the language and contextual influences frequently preclude mentors displaying their craft knowledge. New processes for expressing language-in-use are urgently needed. Pope et al (2003) reported that some of the student midwives and mentors who completed diaries recording learning and support in practice actually expressed the positive value to them of continuing to record educational activity in this way. In-depth analysis of the diary discourses presented throughout my study shows the potential for diary segments to be used in new ways, primarily as triggers for promotion of a democratic process of co-learning. With attention to ethical issues and sensitivity of some information arising from practice, mini-narratives could help un-tap areas of practice so often tacitly known and only partially expressed. As mediating tools, sharing of the narratives could help mesh the different knowledges, for example, intransitive with transitive (Phillips et al 2004). The 'suppressed and silent knowledge' described by Ohlén and Holm (2005) could surface through shared 'co-generative' dialogue, so
encouraging a 'generative dance' (Cook and Seely Brown, 1999) between the mentor and student. Importantly, the tool may provide a means for meshing of personal and public knowledge, so providing a pathway towards intentional and deliberative learning (Eraut, 2000).

A summary of contexts inferred from the students’ accounts are presented in the table below:

<table>
<thead>
<tr>
<th>Positive</th>
<th>Ambiguous</th>
<th>Less positive</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Skilling</td>
<td>Asisting doctors</td>
<td>Exhaustion</td>
</tr>
<tr>
<td>• Defined learning</td>
<td>Coping</td>
<td>Swearing as an expression of anger or fear</td>
</tr>
<tr>
<td>• Elation eg when successful clinical outcomes achieved</td>
<td>Empathic understanding</td>
<td>&quot;I shat myself&quot; (Student L)</td>
</tr>
<tr>
<td>• Feedback from women</td>
<td>Learning from mistakes or poor role modelling</td>
<td>&quot;I was pissed&quot; (Student F)</td>
</tr>
<tr>
<td>• Assessments 'passed'</td>
<td>Peripheral participation (being supernumerary)</td>
<td>Expressed fear of:</td>
</tr>
<tr>
<td>• 'instilling','guiding','care rubs off on you'</td>
<td></td>
<td>&quot;messing up&quot; (Student N)</td>
</tr>
</tbody>
</table>

The data confirm that passing on the craft knowledge is multifaceted. The varied language to convey non-formal components of learning must be inclusive of relational aspects within dyads and the range of mentor styles and strategies adopted to promote non-formal learning in practice. Issues concerning the relational aspects of learning are often overlooked in midwifery practice settings and yet the language-in-use captured through diaries, displays how often latent knowledge remains untapped.

In their descriptions of techniques and strategies mentors used to pass on craft knowledge and practice know-how in Part Two of the analysis (Chapter Five), language was often more formal. Some student midwives were able to vocalise the positive impact
the mentor had on their learning, describing how the mentors prepared them for emergent learning opportunities.

6.3 Part Two: The techniques mentors used to share their practical knowledge, as described by the student midwives

The transfer of ‘craft knowledge’ (Spouse, 2001) and ‘practice wisdom’ (Higgs and Titchen, 2002) was often subtle and tacit. The mentors were found by students to share their knowledge using a wide spectrum of techniques, for example, through:

- role modelling,
- encouraging reflection on practice,
- problem solving and
- exposing students to experiential learning.

An expert is described as someone possessing self-generated knowledge (Olson and Biolsi, 1990). However, the degree to which knowledge as ‘generative’ is questionable and extremely varied (Cook and Seely Brown, 1999). Opportunities to use tools for mediating knowledge were often ignored, including the use of language as a tool (Vygotsky 1956, 1978).

One mentor used ‘what if’ scenarios and creative use of a chicken for practising suturing. Data also revealed examples of role reversal, informal discussion and humour. Whilst superficially this may seem commendable, the students’ discourses generally suggest that some mentors did not spend enough quality contact time with their student midwives so these techniques were sometimes not fully applied. The student nurses’ activity diaries reported by Lloyd Jones et al (2001) showed the lack of availability of named mentors to students and the detrimental effect this ‘pseudo-mentoring’ (Darling, 1984) had on some students’ learning.

The unsystematic models of mentoring operating created partial instruction leading to fragmented knowledge and incomplete learning cycles. Currently, the mentors appear to be using models of coaching which result in partial learning due, partly, to the planning stage not being built into the clinical curriculum by mentors. This is of relevance because experiential learning theories suggest that know-how is established only through completing the learning cycle with formal reflection on recent practice.
The strategies the mentors selected for passing on their craft knowledge to students were important. Of equal value to students in this sample was the planning of learning opportunities in collaboration with their mentors. As Cope et al (2000) suggest, scaffolding of learning is extremely important to enable learners to reach their full potential. The scaffold is, however, supposed to be a temporary structure but is central to cognitive apprenticeship models. The inclusion of tacit knowledge needs to be included in the bridge arch so that integration of the tacit with explicit is woven into activities (Dickson et al 2006) between 'advanced beginner' (Benner, 1984) and competent performer. Spouse and Redfern (2000) emphasise the fine line between the tangible and intangible aspects of a curriculum. Cognitive apprenticeship strategies provide a means to access intangible aspects within authentic contexts. Havani (2005) promotes use of interactive exercises such as the mentor and student building each step of a 'bridge of trust' as the first step towards scaffolding learning.

The diagram below shows a bridge as a scaffold to link theory with practice:

**Figure 12. Bridge of Trust. Adapted from Havani, 2005.**
The bridge signifies the strong relationship that is required within mentorship to help students move smoothly from ‘knowing that’ to knowing how.

6.3.1 Scaffolding learning

As Spouse (2003) asserts, the befriending element of mentoring forms the foundation of the temporary scaffolding structure.

Befriending

Whilst there are quite a few examples of befriending of students by their named mentors in the diaries, there is little evidence of planning of clinical learning. Student A, however, describes clearly how empathic understanding on the part of the mentor and clear planning prior to all clinical activities led to “one of the best days I’ve ever had on Labour Ward”. The crucial part for the student (as it was her first exposure to a twin birth) was for the mentor to impart her own experiences with twin deliveries and to go through each stage “step by step”. The planning aspect formed an important part of the coaching strategy by the mentor, who warned the student prior to the delivery that she would be a “bystander” only and would be checking the baby. It seems that the positive befriending of the student and the welcoming into the community of practice had a knock-on effect on the student midwife. This is because this pair appeared to have many behind the scenes discussions prior to entering events. For example, Student A says:

“When [my mentor] and I came out [of the delivery room], we actually discussed this [the woman’s previous negative experiences] and, ur, I knew between us, [my mentor] and I could gain her trust.”

Student A, audio-diary.

The ‘Critical companion model’ (Titchen 1998) has been described in Chapter Three. It has potential to be adapted to enhance models of mentoring in midwifery practice. Subcategories within the model could be used as triggers to help promote deeper learning. However, Titchen (1998) makes assumptions that ‘blending’ of, for example propositional knowledge and personal knowledge occurs implicitly. Student midwives in my sample generally acknowledged the centrality of the mentor as a catalyst (Daloz 1990) to assist with the blending of the varied forms of experiential knowledge. Minimal communication appeared to occur through use of stories told by mentors as experts and
yet stories can provide meaning by alerting us to the 'inchoate' features of practice (Daloz, 1990).

Empathic understanding by the mentor appears to be needed at the outset of any learning relationship. Some disclosure is needed, particularly in a dyad (Lowe, 2002). Mutual trust, as found by Spouse (2003) and Magill-Cuerden (2005) are essential. To avoid issues being taken unnecessarily personally, Pope et al (2003) recommended the use of a clinical passport to be used to convey pertinent student information between placements. This could assist in depersonalising issues at the initial 'interview' or meeting. Havani (2005) recommends self-evaluation of skills in the form of a profile for discussion at the outset of any mentoring relationship.

Planning
It would appear that the planning aspects used by the mentor had a more profound effect on the Student A than other students in the sample because, as Spouse (2003) purports to be needed, a trusting democratic relationship had been built, the student felt she had a secure base and both social and professional support were offered by the mentor. This mentor had effectively assessed the student's capabilities and vocalised short-term learning aims and outcomes. Longer-term learning outcomes were rarely articulated in this data set.

Student A, in the first part of the diary describes the formative (or mid-point) assessment. This was rarely vocalised across the data set and yet was found to be crucial to ongoing planning of learning for the student. This semi-formal conversation meant that identification of Student A's zone of proximal development was achieved early in the placement (Vygotsky, 1978). This mentor/student dyad worked within unwritten promises articulated by the mentor.

In contrast, Student N said "I needed the knowledge of what had happened". This was referring to the labour history of a sick baby who had been a breech presentation and was on the neonatal unit. The gaps in the history appeared to affect the planning of care, leaving the student describing feeling helpless and lacking a locus of control.
Student F described her resourcefulness in the absence of her mentor during an antenatal clinic at which women were attending at twenty weeks gestation. It would appear that this student midwife was actually performing outside her zone of proximal development or comfort level as she initiated a physiotherapy referral for an asthmatic woman. Student F's named mentor was unaware of the student's performance as she appeared to work within a 'trouble-shooting' model of mentoring. This meant that a brief discussion took place during the allocation of women on an antenatal ward but most ensuing discussions in practice occurred if clinical problems arose. Lack of feedback on performance meant that no short or long term goals were set, thus restricting the learning opportunities for this student midwife.

Knowledge maps have potential to be used as tools for planning and reviewing progress as well as knowledge accumulation. Parboteeah (2001) demonstrated the potential for tools such as this to help tailor students' learning, using a structured plan. The data in this thesis display the need for more specific time for each mentor/student dyad to work towards knowledge being put into context. The knowledge maps in Parboteeah's (2001) research study provided a focus for mediation of knowledge because of the central concepts; 'relevance' and 'understanding'. Cognitive scaffolding only occurred, however, if knowledge maps were reviewed regularly. Skills clusters are likely to be formally developed in the near future (NMC, 2006). I would suggest that knowledge maps need to be inclusive of non-formal as well as formal (propositional) knowledge.

**Identifying the student's 'Zone of Proximal Development as part of planning**

The assessments of students' overall capability when starting a clinical placement were often very informal (Pope et al, 2003). There was certainly no standardised approach to this. Unusually, the mentor to Student A not only seemed to undertake an informal assessment of the student's abilities in delivery suite (inclusive of the theatre environment) but offered a spoken evaluation in the first few days of the placement:

"You've got to get over this fear of theatre" (Student A).

The mentor appeared to recognise that the student's fear was blocking learning and was evidently receptive to repetition of acute anxiety expressed:

"She [the mentor] also said we needed to take a few babies" (Student A, p3).
Whilst grateful for the recognition of the student's need to overcome the fear, the student displayed some discomfort at the edge of her comfort zone.

In contrast, in a later diary entry, Student A reported an increase in learning. This may have been because the student was less emotionally involved with assisting with the siting of an epidural:

"[My mentor] said it would be a good experience" (to assist with setting up an epidural).

Student A went on to describe how beneficial it was to her learning to have a "little push" from her mentor. As found by Spouse (2001) identification of boundaries by the mentor appeared to increase the student's learning and professional maturation.

Student D's mentor appeared to assess the student's zone of proximal development from a different angle:

"And [my mentor] actually suggested...that she did a few deliveries...and see the varying techniques." (Student D).

The student's ensuing diary entry describes how helpful it was to be exposed to these 'varying techniques'. Following a birth conducted by her mentor, the student says

"it was a wonderful delivery".

However, where student development was not assessed and where care became routinised (Eraut, 2000) or based on procedure, students' diary entries were evidently based on impressions only and some students described feeling disempowered for example:

"My mentor went through the procedure [for termination of pregnancy] with me" (Student F).

This initially sounds supportive on the part of the mentor. The student adds: "We were just popping in" (Student F). This return to routinisation was congruent with the findings of Chamberlain (1997) and may have been triggered by an acute sense of uncertainty in the situation as found by French (2006).
Several students described the frustration they felt with their performance. Student G stated: "I got all tongue-tied" when undertaking an antenatal booking visit with a woman after having had a break. Another student expressed discomfort at performing outside her comfort zone:

"I felt a little bit clumsy really...I felt a little lost and blind" (Student F).

"I felt...pushed to the back [of the theatre]" (Student A).

These latter quotes provide insight into the nature of situated learning within a community of practice. As found by Dalton (2005) the 'hiding space' was a necessary retreat when students needed to stand with their backs against a physical structure. The role of the mentor in detecting a student's level of 'readiness' in a situation is evidently crucial (Cole et al, 1978).

Student L described how she tried to make herself invisible in the 'intimate space' (Dalton, 2005):

"I stepped back a little bit and let my mentor do it [deliver the baby's shoulders]".

In contrast, Student F appeared to be performing outside her comfort zone and actually reported performing extremely well in a new situation (an antenatal clinic at which women were approximately twenty weeks' gestation). The student displayed resourcefulness and some assertiveness (for example, in suggesting a physiotherapy referral) but no 'impactful' feedback was given (Gibbs, 2004) resulting in learning remaining in a reactive mode (Eraut, 2000). Equally important, with respect to the student's ongoing learning, is the fact that the mentor did not apparently follow up on this episode and was therefore unaware of the student's reported superior performance on that day.

Role modelling as a scaffolding device

Varied role modelling styles were used by the mentors in this sample. As Cope et al (2000) found, mentors often perform the scaffolding aspects of the role in an implicit fashion. The result is that there is no framework for implementing Vygotskian theories of learning (1956, 1978) and no rationale for mentors to follow. Techniques for modelling midwifery were disparate in student midwives' diary discourses and led to idiosyncratic
learning patterns (Spouse, 2001). Cope et al (2000) purport that part of the problem may lie with the multiple, confusing definitions of mentoring which exist.

The data used for my research showed the students often surreptitiously observed their mentors and described how they planned to model professional behaviour. Pamela Matters (2002) refers to mentors as ‘live educational resources’ (p 3) and confirms findings from my research that show the power of non-verbal exchanges such as a raised eye brow from the mentor, a smile or a shrug. Behaviours are adapted according to these ‘silent signals’ (Matters, 2002) and I suggest that even subtle signals and maxims can have a profound impact on women who are users of the maternity service. There needs to be funding to conduct quality research to gain further information about the effect of educational activities and their impact on the care of women. This could be included in the new ‘Listening to Mothers’ research (2006) being performed in line with the current service user involvement agenda.

Student A described how she watched her mentor communicating and preparing a couple:

“...she was just really good with the couple and I wondered if I was like that. I hoped I was or I hoped that with [her] influence I would be” (Line 5, Student A).

Although the student describes feeling “really detached” (Line 11), the influence of the mentor and absorption of the role of the midwife being ‘with woman’ seemed to have quite a profound effect on the student’s learning of compassion and communication with couples more generally. As Bandura (1977) purported, however, there is a limit to how many cues the learner as observer can actually process at one time.

There were examples of disclosure by midwives, for example, Student A, who was involved with the birth of twins. “She told me how she did it”. The fact that the midwife mentor apparently made the technique sound “straightforward” led to potential for inter-mental learning to occur (Vygotsky, 1978). Verbal interaction was significant to students, for example:

“It was quite interesting how my mentor dealt with situations ..you can’t experience them in a classroom...you don’t pick them up from a text book” (Student E).
Role modelling of basic comfort was studied by Pang and Wong (1998). The model showed how emulation helped stimulate both subtle nuances of providing care and technological adeptness. Whilst Student E observed how the mentor "dealt with" a challenging situation, there was no discussion reported as to how the mentor problem-solved or explained the rationale for provision of care in specific situations. Expertise seems to have been observed at a fairly superficial level as professional judgements were not articulated. Lack of learning discussions led to learning remaining reactive.

Mimesis (meaning imitation from Greek) involves selecting aspects from the continuum of experience. External actions are supposed to visibly show what is going on in a person's inner thoughts. Lazar (1991) suggests that teaching with a sense of artistry entails the use of multiple intelligences. How the artistry is conveyed to the learner, through both verbal and non-verbal means, provides clues as to the limits of mediation of midwifery craft knowledge. Collins et al (1991) contend that observation plays a key role in development of conceptual knowledge.

Student N described the benefits (including an element of vicarious learning) when the mentor explained the reasons behind induction of labour, supporting the explanation with growth charts and head circumference graphs.

This contrasts with Student B who depended on the midwife's advice rather than modelling of the care.

"I asked my mentor's advice and she said just try and persevere" (Student B, audio-diary, line 12).

This vignette showed there was potential for scaffolding of learning, but partial coaching occurred only, due to lack of mentor/student contact time during the episode of care. This appeared to lead to reactive learning.

The diaries submitted for my study suggest that (as found by Spouse and Redfern, 2000) poor practice was sometimes role modelled, leading to limited and fragmented learning. Bluff (2001) also highlighted the inappropriateness for students of midwives who cut corners and modelled poor practice.
Scaffolding learning through confederate activities

Several students in my sample identified the value to their learning of mentors teaching the student midwives whilst concurrently performing midwifery care with women and babies. Confederation, as described by Spouse (2003) is a method of teaching in which the mentor takes the lead in the episode of care. Student N’s mentor apparently showed her how to perform a baby’s capillary blood sugar. Talking through procedures was found to be helpful for the development of both confidence and competence of student midwives in my sample:

“My mentor showed me and talked me through how to do this” (Student N, p27)

As demonstrated throughout literature describing practical learning, learners need information reinforced (Knowles, 1998). A challenge for any mentor is to assist learners to deal with both overt and covert learning outcomes (Lempp, 2005) and adapt instruction so that it matches the learner’s individual learning style. Methods of elicitation of expert knowledge are crucial to promote more deliberative learning (Olsen and Biolsi, 1991), the most successful technique being thinking out loud:

“[My mentor] and I were discussing things as the epidural was set up” (Student A, p18)

As suggested by Collins et al (1991), sequencing of activities to structure learning was found to be important to student midwives in my sample:

“. . .So, [my mentor] went through with the episiotomy step by step”

(Student A, p19)

Going through breech “step by step” with her mentor was also found to be helpful to Student N (p22).

However, artistry involves a shift from concentrating on pure technique to moving towards praxis (Smith M, 2005). Thinking-in-action is essential for tackling more complex skills (Knight and Banks, 2003). Eraut (2000) argues that the term used by Schon (1987) ‘reflection-in-action’ is used inconsistently and creates confusion. I posit that if Fish et al.’s (1990) model of reflection was adapted and modified for use within mentor/student...
dyads, the 'interiorisation' process described by Polanyi (1967) would have a firmer framework. Reviewing patterns in practice within the 'retrospective' strand of Fish et al's (1990) model could encourage student midwives to uncover meanings in their own language. As Kavanagh (2000) asserts, the personal learning involves a hard look in the 'messy mirror' but challenges of personal learning, even if successfully achieved, are not recorded or assessed in any way. I suggest that the formative assessment needs to capture personal learning of this nature because it is fundamental to lifelong learning for student midwives. The data confirm that the assessment system needs to be brought into harmony with the notion of reflective practice (Dahlgren et al, 2004). This is because a critical perspective is essential to expand a learner's 'horizons of interpretation' in the journey towards acquiring practice wisdom (Gustavsson, 2004).

Untapping the 'inert' and latent know-how (Knight and Banks 2003, Lam 1998) occurred in different ways across my data set. It is evident that new knowledge can only be created if there is interaction between explicit and implicit modes of knowing. Professional artistry was particularly difficult to impart in clinical situations where there was ambiguity (Baumard, 1999). Student A described how the mentor’s questioning in the form of probing assisted learning:

"My mentor had a pep talk with me, went through asking me questions: what would I be monitoring...observing..." (Student A, p15).

Additionally, this student described how the mentor questioned how the student would detect deviations from the normal in delivery suite and interestingly, what the student would select to report to the mentor. The student went on to describe how confidence-building this specific questioning was.

Knowles (1998) asserts that a mentor’s intentional processes assist learners in developing mastery. To help a learner make adjustments, the mentor needs to provide 'extension' and clarification of meaning. Using a tool such as a teaching aid is sometimes not enough:

"So [the mentor] went and got the baby and pelvis" (Student A, p1).
This was to reinforce clinical teaching about positions of the baby and breech presentation). The student was still left with many questions following the birth of the baby, so dialectical thinking was apparently not actively encouraged by the mentor.

Heidi Lempp (2005) explicates the struggle medical students had to master craft knowledge and their journey towards performing in small groups around cadavers. The compassion, enthusiasm and motivation of the teachers in assisting students to enter into unfamiliar spaces were encapsulated as ‘passing on practical tips’. Delamont and Atkinson (2001) assert that expectations for dealing with practice situations need to be realistic in order to avoid ‘reality shock’. The socialisation into midwifery was highly individualised for the student midwives in my research study.

Student A implied that the mentor showed some sensitivity to her fear of the operating theatre. Through ‘reading’ the student’s body language and working in partnership with her, the mentor facilitated future learning. The student almost sounded grateful to be ‘pushed’ into further clinical situations in theatre. There was an implication that the decision had been reached together:

“..we needed to take a few babies” (Student A, Line 7).

Through demonstration of sensitivity to the student’s verbalised and non-verbalised fear, the mentor had moved towards uncovering the ‘unconscious effects of previous experiences’ (Eraut, 2000) which had resulted from implicit learning for the student. The mentor’s responsiveness suggests she had acknowledged the student’s prior learning history (Boud et al, 1993, Dochy et al, 2002) and affected the pattern of activity (Diens and Perner, 2002).

In contrast to the above extract which demonstrates the positive outcome of a mentor responding to a student’s learning needs, the same student described her disappointment when being mentored by an experienced midwife the following day:

“She did not ask me at what point of my training I was in” (Student A, Line 19).

Expectations were not verbalised. Secondly, the metaphors the student used, for example: “You feel completely out of your depth” (Student A, Line 16) were completely unknown by the mentor. The essential personal knowledge referred to by Eraut (2000)
was missing, as was discussion on practice and conversations involving stories (Van Krogh et al, 2000).

The diagram below illustrates the key techniques for mediating learning in practice. The inclusion of language or speech as a tool enables inclusion of Polanyi's theories of tacit knowledge to be used and also Vygotsky's (1956, 1978) theories which focus on speech and semiotics for learning.

**Figure 13: Techniques and tools for mediating learning**
Stories, histories and episodic memory for scaffolding learning

To help plan their own learning and to negotiate their learning needs, students need to consider their own learning histories (Eraut 2000, Dochy et al, 2002). It would seem that students know little of their mentors' learning and working histories. The institutional culture seemed to mitigate against creative conversations in the workplace and yet Van Krogh et al (2000) found this social sharing of knowledge helped to enable knowledge creation. The role of biography and narrative has been found to be helpful to enhance learners' personal theories-of-practice (Volante, 2005). A biography is obviously essentially individualised so relational learning can use dialogical principles to verbalise how real-life extracts from professional practice can be used for learning (Magill-Cuerden 2004). These discourses have potential to assist our understandings of how practice knowledge is generated, internalised and used.

The students rarely described storytelling by their midwifery mentors in their diaries. This is mentioned because my own experiential learning was enriched by my midwives, at all levels, passing on their experiences through narrative. It may be that my own learning style is compatible with this method of sharing information. However, the clarity with which I remember certain episodes is noteworthy. The learning we use to describe and explain our everyday activities rarely now occurs in groups due, partially, to skill mix constraints. I owe a debt of gratitude to many midwives who shared poignant stories, as well as positive birth stories. As Alterio found (2002), storytelling has the potential to enhance student learning. Bruner (1990) asserts that cognition is not located in one place but is distributed. Narrative assists learners to construct knowledge of the physical world and constitute experience through the stories.

Lowe (2004) suggests that transformation of explicit knowledge into tacit knowledge can occur for students if mentors find ways to articulate their personal know-how. It was down to the students, however, to find ways of accessing their named mentors' experience. Student E seemed to struggle with this, in saying: "It's something you pick up on...like" (Line 5), referring to how her mentor "dealt with" a distressed woman with reduced fetal movements.
Tools and physical teaching aids

One mentor suggested using chicken for practising the suturing technique. Another mentor would apparently unwrap a forceps set if necessary:

"She [my mentor] will help me if I...want to look at a forceps pack. She will probably open one up for me" (Student D).

A doll and pelvis was used to demonstrate breech mechanism and also for teaching assessment of the position of a fetus in utero. The mentor to Student A apparently drew diagrams to reinforce learning of the landmarks on the baby's skull. This indicates deliberative learning which was planned and intentional. According to the detailed information presented in the students' diaries, opportunistic teaching did not occur frequently or regularly. This leads me to surmise that there is potential for more creative teaching using innovative visual aids to be utilised in the practice setting.

Using touch

Student C described the benefits of being enabled to feel for herself the pressure needed for controlled cord traction in the third stage of labour:

"By gently moving my hand up and down" (Student C, line 7).

This illustrates Sandelowski's (1997) view that learning is far more than a cognitive event. Certainly, in midwifery, learning through touch is essential. Benner (1987) asserts that skilled know-how in an expert is based on 'embodied intelligence'. However, judgement is notoriously difficult to articulate when there is 'embodied takeover of a skill'. Although the students in my sample describe some of the challenges in abdominal palpations and undertaking vaginal examinations, there is minimal reference to the art of palpating contractions in labour, even when an induction of labour is described (for example, by Student C). Accurate assessment of length and strength of contractions takes years for a midwife to acquire. Information received through the hands in this way is essential: As Kitzinger (2005) and Magill-Cuerden (2004) assert, the art of midwifery is declining due to excessive use of technology, which is not being used selectively.

Lost learning opportunities were replete in the data. An example is Student F, who had actually recognised a breech presentation on abdominal palpation. The debate continues as to the ideal balance of direct observation in the clinical setting as opposed to simulation in clinical skills laboratories. The response to the NMC Consultation on...
proposals arising from a review of fitness for practice demonstrate that midwives generally consider that direct observation in practice is not always feasible (Ball, 2006). What is unclear is whether this is because of increased student numbers or lack of exposure to required clinical cases and opportunities. It would seem that Student F would have benefitted from rehearsal of palpation skills alongside scenarios which include challenging findings and the need for assertiveness etc.

Articulating expert knowledge to scaffold learning
Olsen and Biolsi (1991) recommend that experts think out loud while making their judgements in practice. This contributes to proleptic instruction (Vygotsky, 1956). What needs to be acknowledged is how challenging it is to represent and enumerate the practice of an expert. Very few midwife mentors allocated to the students in the sample were described as being able to effectively demonstrate how they used recall for eliciting their profound body of experiential knowledge. Many of the methods put forward by Olsen and Biolsi (1991) to represent an expert's knowledge would be far too complicated in a maternity care setting. Additionally, analysis of the language used by student midwives in the first part of this Discussion chapter, demonstrates the interplay of other mitigating factors such as: the impact of 'crowded contexts' and effects of 'episodic memory' and habitual custom and practice, or 'routinisation' (Eraut, 2000). These proved to be barriers for students to move into deliberative modes of learning. Mediating tools such as knowledge maps were not used or mentioned as a possibility across the sample of student midwives.

Feedback as a scaffolding device
Student G described the impact of feedback on her communication to women during an antenatal booking clinic. This is a challenging skill as all questions on the booking form need to be completed. Learning remained in a reactive mode as the zone of proximal development was apparently only partially assessed. Pressure of time in antenatal clinics restricted the repertoire of teaching expertise which could be transmitted by the mentor (Brigley and Robbé, 2005).

Hodge and Oates (2005) advocate blending extrinsic and intrinsic feedback methods. Extrinsic is feedback externally offered from, for example, a mentor while intrinsic feedback may be in the form of sensory information. Hodge and Oates (2005)
emphasise the timing of feedback as extrinsic feedback given soon after completing a manual skill has been found to enhance learning.

6.3.2 Fading
Interestingly, it seems that in the literature on mentoring in the health professions, very little emphasis is placed on the mentor and learner parting company. Daloz (1990), however, specifies that this is an important phase which needs to be carried out with sensitivity.

Role reversal
In stating “we'd done a bit of role reversal again” (Student A, Line 13), the student midwife appears to be describing the impact a change in situation from the norm has on her learning. The practice of systematically varying learning conditions is recommended (Fazey and Marton, 2002) for testing skills and promoting deeper learning. Collins et al (1991) refer to this reversing of role as 'reciprocal', which has been found to be an effective teaching strategy, particularly if differences in exchanged roles are vocalised and reflected on.

Other students described a more subtle reversing of roles, for example, in giving dietary advice to a pregnant woman in the antenatal clinic. Student G reflected: “We get stuck in our patterns” and subsequently independently tailored information for the woman’s needs. The mentor apparently found the information useful for her own practice.

Student N also described how, through ongoing discussions with her mentor during the day, as a dyad they were “picking up and learning little tips from each other”, reflecting on 'their' practice as they were going. Collins et al (1991) assert that these modes for sharing assist the surfacing of characteristics embedded in a culture or sub-culture.

Semiotic mediation
Where this form of mediation was noted, there appeared to be powerful effects on learning. Student A described her mentor smiling to encourage her when performing her first episiotomy. As Sandelowski (2003) suggests, semiotics such as a smile, can prove penetrating and provide meaning in a culture. These meanings can be transmitted by speech, signs and symbols (Lima, 2004). How knowledge is mediated using signs and
tools is a form of embodiment (Cole et al, 1978) and, as Benner (1984) asserts, an expert’s non-verbal gestures and maxims can convey a wealth of information. Student A’s mentor was described as using semiotic mediation as a subtle form of coaching. My research has shown that the signs, gestures and signals passing between the midwife mentor and student midwife are significant and this needs to be addressed within mentor preparation.

The diagram on the following page illustrates the phases for students in practice, from immersion and incubation to creative synthesis and validation. This model has been adapted from Moustakas’ (1990) research model:
The diagram above is a presentation of the basis of a dyadic reflection tool. Moustakas' (1990) tool has been adapted because of the students' needs when entering a clinical environment in maternity care. Immersion and Incubation are the first stages (Box One) and demand befriending and sponsorship qualities from the mentor. Illumination and Explication (Boxes Two and Three) demand scaffolding activities through confederation where the mentor takes the lead in clinical care. Explication can only be fully achieved through active reflection on and in action being encouraged. Creative synthesis and
Validation (Boxes Four and Five) are only achieved if successful ‘fading’ is implemented by the mentor (Cope et al., 2000), leading to coaching.

The diagram on the following page shows a template for a dyadic reflection tool. Moustakas’ (1990) research model has been merged with Fish et al.’s (1990) model of reflection. The purpose of this new model for reflection is to encourage knowing in use to emerge from knowing in waiting, thereby celebrating non-formal learning:
Figure 15. Model for reflection within a dyad

VALIDATION
The connective strand
Implications for practice

CREATIVE SYNTHESIS
The substratum strand
Examining the hidden

EXPLICATION
The retrospective strand
Looking back at meanings
Formative dialogues

ILLUMINATION
The factual strand
Conveying the story or incident

INCUBATION

IMMERSION
In the diagram on the previous page, 'immersion' and 'incubation' occur below ground. They involve being 'shown the ropes' and absorbing the contextual features of the environment. Student midwives are reliant on good clinical practice being modelled. The mentor needs to assist the student to move from the hiding or transitional space to the intimate space (Dalton, 2005). This demands befriending by the mentor (Spouse, 2003) and planning of learning. 'Incubation' is an important process for encouragement of 'interiorisation' (Polanyi, 1967) by the student.

As part of 'illumination' (Moustakas, 1990) the 'factual' strand (Fish et al, 1990) becomes necessary as students need to convey practice stories and incidents to mentors. Of equal importance is mutuality as mentors also need to share their practice stories. This strand should remain entirely informal and therefore formative in nature. Teaching and learning styles should be vocalised at this stage. Knowledge will be identified and the mentor should begin to articulate key features of practice, drawing on relevance and elucidating craft knowledge, aligning the practice know-how with evidence. The 'explication' phase is about seeking clarity through formative dialogues, so creating a pathway for inter-mental learning to occur (Spouse, 2003).

'Creative synthesis' is a pathway to help students piece the jigsaw together. This occurs in the 'substratum strand' which lies closer to the light. Deliberative learning is achieved through intentional, planned reflection (Eraut, 2000). 'Validation' is achieved through checking meanings thoroughly with students. This may occur through summative assessment or part of a planned procedure of mentoring but should not be a 'one off' event and therefore needs to individualised.

The 'connective' strand includes examining the hidden and may reveal the transformative potential of the student through dyadic interaction.
6.4 Part three: The influence of institutional contexts on non-formal learning

As Spouse (2001) suggests, it is the collaborative nature of the mentor/student relationship which is crucial to the learning process. The extracts evidence the potential for the mentor to be a catalyst for change, promoting active learning. This could be achieved through scaffolding the learning; identifying students' 'knowing-in-waiting' and 'knowing-in-use' (Spouse, 2003), thus assisting the articulation of potential development of the individual learner. Formalising the tacit and non-formal elements of knowledge in this way provides the potential key to facilitating student midwives to move from reactive to deliberative learning. The context, however, is crucial and is known to have a powerful impact on supervision of clinical practice (Spouse, 2000).

Chaotic environments for midwifery practice were generally described as delivery suite. For example:

"The ward has gone absolutely mental...I ran into the office" (Student A).

Student A, (line 8) stated:

"You come on a shift and you never know what you're going to face".

The student repeats her fear of operating theatres throughout the discourse. Specific preparation for students on pre-registration preparation programmes would probably be beneficial. Student A described a degree of culture 'shock' from bright lights in theatre, alongside machinery, masks and sterile 'fields' within a medically led environment. Student N would have benefitted from realistic preparation for the neonatal unit and caring for babies needing special care.

Field (2004) suggests that thinking is intricately interwoven with the context of the problem to be solved. The context is therefore an integral aspect of learning. The 'tacit supervision' reported by Eraut et al (2004) led to learners sometimes feeling 'rudderless' as support structures were not stable. Coping mechanisms for novices involved strategies such as referring to other professionals in the team. Support mechanisms in practice need to be clearly identified.
Unwin's (2004) excellent work on developing an expansive approach to work-based learning has displayed the enormous variation of mentorship practices from one organisation to another. The context influences whether the infrastructure promotes polarised or widely distributed skills but needs to be viewed as a continuum. Unwin (2004) purports that formative approaches to assessment are indicative of an expansive environment. My research has shown that the formative is not generally valued.

Handovers and report sessions are said to provide 'scripts' because language used is indicative of the institutional culture. Parker and Wiltshire (2003) found that, although the handover appeared to be an organised narrative, there were anecdotes and stories told which indicated the culture. Student midwives in my sample suggested that the handover was used primarily as a tool for allocation of women.

Student L said:
"My mentor lets me hand over my ladies and then I can go home".

This is evidently an example of a lost learning opportunity. Creating space for interpretation of experiences is essential for learner transformation (Phillips et al, 2000). Mentors should be rewarded for making room for exercises and conversations which enhance students' interpretive abilities, within a non-formal framework.

There is currently a lack of consensus within the midwifery profession as to the value of increasing simulation in the curriculum (Ball, 2006). Practising of skills using simulation versus real life practice raises concerns about acquisition of craft knowledge, for example the skill of palpating contractions when an epidural is in situ. With changing demographics creating an ageing workforce and midwives increasingly working in part-time patterns, midwives themselves may see the demise in their skilled craft know-how.

The preceding research has highlighted the impact of relational issues on learning (Magill-Cuerden 2004). Whilst role theory can be a helpful model for delineating role conflict (Handy, 1990), Phillips et al (2002) suggest that simplistic versions of a role are often put forward and this encourages stereotyping. In the data presented for this study, the mentoring role was multi-dimensional, encompassing hidden aspects.
The hidden curriculum is indeed present in mentoring structures and activities. Being bound by implicit institutional 'norms' can significantly constrain the artistry required for high quality, responsive mentoring.

The table below illustrates factors which have emerged from the diary data that could significantly influence how student midwives absorb and interact with non-formal learning in the current institutional contexts.

**Table 9 What influences absorption of non-formal learning?**

<table>
<thead>
<tr>
<th>ENABLING FACTORS</th>
<th>RESTRICTIVE FACTORS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mentors who are well prepared and sufficiently updated</td>
<td>Reduced numbers of midwives in practice settings</td>
</tr>
<tr>
<td>Midwives who are clinically skilled and confident with sound decision making and</td>
<td>Lack of continuity of mentors for students (e.g., with staff being part-time)</td>
</tr>
<tr>
<td>competent with clinical judgement</td>
<td>A culture of interventionist approach to birth, leading to reduced numbers of</td>
</tr>
<tr>
<td>Mentors who are motivated to teach and committed to the role</td>
<td>'normal' experiences and therefore national variations in skills for students</td>
</tr>
<tr>
<td>Excellent communication skills with all personnel and families in their care</td>
<td>A culture of over-use of technology</td>
</tr>
<tr>
<td>Protection of time with student midwives</td>
<td>Supernumerary status throughout programme</td>
</tr>
<tr>
<td>Institutional support for mentoring, including valuing and rewarding the role</td>
<td>‘Overcrowding’ of the curriculum</td>
</tr>
<tr>
<td>Mentors with a good grasp of the theoretical curriculum and enthusiasm for the</td>
<td>Midwives reducing time spent with women</td>
</tr>
<tr>
<td>clinical assessment process</td>
<td>Demands of theoretical assessments and exams leading to students feeling tired and</td>
</tr>
<tr>
<td>Language used as a tool for mediation of learning, which is inclusive of tacit</td>
<td>stressed on placement</td>
</tr>
<tr>
<td>expressions (for example, through sharing professional stories) and formative</td>
<td></td>
</tr>
<tr>
<td>activities.</td>
<td></td>
</tr>
<tr>
<td>Planned activities which harness the passing on of the expert's craft knowledge.</td>
<td>A ‘sitting by Nellie’ approach to mentorship</td>
</tr>
</tbody>
</table>
Additional factors which influence absorption of non-formal learning are:

- Demographic predictions reveal that, due to an ageing workforce, large numbers of midwives are retiring. Due to dissatisfaction with the role, midwives are leaving the profession. Additionally, almost fifty per cent of practising midwives are currently working part-time.
- Heavy workloads for midwives and reliance on maternity support workers and the junior workforce. Skill-mix in practice is therefore an issue.
- There is a fear of litigation, leading to defensive practice and over-use of technology. This is leading to de-skilling of midwives and medical practitioners.
- The birth-rate is rising.
- Mentorship is not currently integrated into the midwifery role or recognised in the staffing establishment. The NMC standard (2006) will demand increased mentor student contact time and protected time for signing off assessments.
- The student:staff ratio is threatened in England due to changes in commissioning of student numbers. This will have a direct impact on the quality of midwifery-specific education offered at HEIs and may affect support for student midwives in practice. Additionally, many midwifery teachers are retiring and some face redundancy. This 'bleeding out' of expertise will create a destabilising influence on the whole midwifery profession.
- The impact on mentorship will be significant due to reduced support structures for both formal and non-formal teaching and learning.

It is essential to optimise opportunities for students to acquire professional (specialised) craft knowledge. Evaluating situations through reflecting on all aspects of the learning context are essential to help reframe practice.

What is of relevance is the disparate nature of methods used by mentors to pass on the non-formal aspects of the professional role (their 'know-how' and craft knowledge). From the verbal descriptions of the student midwives, teaching strategies and support for non-formal learning in the range of practice contexts varied. There was a lack of quality contact time for mentor/student interaction and discussion of learning in practice. Some students became 'blocked' and, unable to convey the limitations of their clinical learning to their mentors, demonstrated reactive (on-the-spot) learning as the norm. Minimal time
was built into the clinical curriculum for students to have a space to express their fears, anxieties and learning needs. Did the institutional culture lead mentors to become sensitised to their students? The data reveal some limitations of the students' learning and suggest the need for greater valuing of non-formal, tacit components of midwifery practice.

The diagram below shows what I suggest lies at the interface between learning and caring:

Figure 16. The learning|caring interface

Figure 16 shows the organic, tacit knowledge which lies (often dormant) at the interface between theoretical learning and contextual caring. The preceding research has led me to theorise that this untapped knowledge is actually the site of knowledge production in
midwifery practice. In the diagrammatic representation of the reality of the theory practice gap, the tacit knowledge is currently cushioned by a permeable membrane.

Synergy between the knowing how (experiential, situated learning i.e contextually embedded CARING) and the knowing that (theoretical, evidence-based, problem-based i.e. abstract LEARNING) can only be achieved through guarding quality contact time for students and mentors. The mentor relationship is pivotal to effective non-formal learning in ever challenging clinical settings.

To help penetrate the membrane and untap the taken-for-granted tacit knowledge, mentors need encouragement to use, for example:
- Thorough preparation of students for first experiences
- Guided metaphor
- Situated feedback
- Testing students’ knowledge by varying situations
- Storytelling
- Competent role modelling

Relating experiential practice anecdotes in anaesthesia through use of observational data was found to be extremely valuable to evaluate craft knowledge in that specialty (Pope et al 2003). Untapping tacit competencies of mentors is a challenge which is not insurmountable if the dyad is protected with adequate time and space. The power of language as a tool for learning should not be underrated. Protected time is needed for re-situating new pieces of knowledge to enable transfer of knowledge (Eraut, 2004). The mentor’s gift to a student is to use relevant information, sensitively extracted from practice, and integrate this with previous knowledge and skills. This skill can assist a student to cope with complex, new situations.
6.5 Summary
Assisting student midwives to effectively internalise their practice learning poses an enormous challenge to mentors. This is not helped by the fact that much practice knowledge is unrecorded (Benner, 1984) and tacit in nature (Eraut, 2000). To codify the taken-for-granted know-how described by Marsick and Watkins (1990), mentors need to tailor their teaching to students’ needs through a variety of strategies.

However, even with a small sample, we can see the disparity of techniques used by mentors to pass on their practice know-how. It is possible to see explicit examples in the data of role modelling, touch and role reversal used by some of the midwife mentors.

The data demonstrate a range of techniques midwife mentors used to instruct students and support non-formal learning in practice settings. These techniques ranged from role modelling sensitive care and reversing roles to using models of coaching through examining case records. Several students described the deliberative learning which ensued from planned teaching (Eraut, 2000) and planned reflection on and in practice.

The techniques used to assist students to gain access to the mentors’ craft knowledge were sometimes partial, leading to fragmented knowledge for student midwives. As Titchen (2000) asserts, verbalising of the craft know-how by the mentor needs to occur soon after the role modelling has taken place. This would help the students move from what Eraut (2000) terms reactive learning to more deliberative learning.

Through penetrating students’ frame of reference and unveiling the hidden curriculum, a new model of reflection can be created, based on the formative aspects of learning. Vygotsky’s ‘Zone of Proximal Development’ model has potential to provide deeper understanding of how mentors can work with students in dyads in creative ways. Clinical learning is not a linear process but through paying attention to what lies at the learning/caring interface, students can be directed (by their mentors) to more deliberative learning, which is meaningful and less reactive in nature.
CHAPTER SEVEN

CONCLUSION

A teacher affects eternity; he can never tell where his influence stops.

7.1 Introduction

My research has identified a gap in our professional knowledge regarding how non-formal practice learning is mobilised in midwifery. This form of knowledge is central to midwifery practice and yet many of the expressions from students about the challenges of practice learning would not have surfaced without the selected study design. Additionally, these data may have been unrecorded without use of the diary as a tool. The analytic technique provided a systematic way to tease apart detailed descriptions which often fall messily between private and public knowledge. In-depth analysis of the discourses in this way has provided a window onto the challenges of learning and how students attempted to overcome obstacles to their learning. The fact that the majority of student midwives in this sample appeared so blocked within a reactive mode (rather than expressing more deliberative modes of learning) was an unexpected and somewhat disheartening finding. It is evident that, as demonstrated by Student A, even very subtle techniques used by the mentor could be translated into significant and thought-provoking learning for students studying on both diploma and degree programmes. The use of adapted frameworks from Michael Eraut (2000) and Lev Vygotsky (1956, 1978) have provided a central message: that partial mediation by mentors leads to fragmented learning for students.

This study was essentially data-driven and the intention has been to offer student midwives a voice so that the evidence can assist in creatively analysing how midwives who mentor can more effectively pass on their craft knowledge to the next generations of midwives. The non-formal (planned and unplanned) aspects of clinical learning have not been specifically recorded in this way before. Although the data from the mentors could be said to be missing, possibly creating a hole in the contextual information, it is a point of interest that the mentors’ diaries were found to be generally lacking in descriptive detail regarding the teaching and learning activities. There was less detail to work with
and, as explained in Chapter Three, it was felt that their diaries would add little value or depth to this thesis. The frameworks selected to underpin this research provided a firm and original basis for in-depth investigation around this challenging (but much needed) subject.

7.2 What is missing in the mentoring?

Explicit (formal, propositional) knowledge is evidently still privileged over other forms of knowledge, for example, craft knowledge (Higgs and Titchen, 2001, Spouse, 2001). This exploration of non-formal learning in midwifery practice has directed us towards what is missing in our understanding of how learning actually takes place. How the learning is managed in an overarching mentorship framework indicates that theories of knowledge are not always congruent with the realities of practice. In essence, it would appear that some mentors were overburdened and had become task and outcome-oriented in their approach to managing supervision and assessment of the student midwives. A focus on learning as a lifelong, active process and mindfulness of a learner's individuality seems to have been overlooked by some mentors in favour of short-term targets and summative checklists. With the current emphasis being on results, competences and final grades, the philosophy of individual growth development at the heart of learning will be subsumed to make way for a philosophy which values systems with measurable standards and outputs for economic purposes (for example, league tables). Investing in development of the mentors is increasingly essential. This is being addressed, to some extent, through NMC (2006) standards for mentors and teachers, to specifically support learning and assessment in practice.

Spouse (2003) purports that the transfer of craft knowledge from mentor to student occurs through a range of subtle, often hidden methods. A key finding from my research is that unaddressed fear and ambiguity led to reactive (on-the spot) learning and therefore appeared to hinder students' moving from reactive to more deliberative modes of cognitive knowing. As posited by Marris (1996) uncertainty is always troubling but there was minimal space in the clinical curriculum for students to air their anxieties and expectations for a placement. Internalisation of experiences was expressed by some student midwives as being painful. Others described hovering in what Dalton (2005) called the 'hiding space' in the clinical arena. The students' interpretive repertoires
unveiled the power of personal learning and the effects of navigating the ‘hidden’ curriculum.

7.3 Unacknowledged pathways to cognition
The diaries, completed on audio-tapes, proved to be a generally positive tool for spontaneous reflection on practice and a record of students’ acquisition of practical knowledge. Analysis of the patterns of language-in-use have helped to increase our understanding of midwifery practice in terms of what formed the interface between learning and caring for this sample. The audio-format located some visceral components of knowing which may not have been captured through the traditional curriculum. This was certainly the case when student midwives found themselves in the ‘intimate space’ (Dalton, 2005). The process of journalling was found to increase meta-cognition (Moon, 1999) for some students, enabling them to reflect and learn for future practice.

7.4 Centrality of the mentor/student dyad
The un-codified knowledge is very rich and multi-layered. Much progress has been made since traditional methods such as ‘sitting by Nellie’ (Bluff, 2001). This was a traditional apprenticeship style in which a learner worked alongside a role model, receiving instructions but often without accompanying theory. Higher order thinking in the form of meta-cognition is necessary for quality assured performance, competence and lifelong learning (Vygotsky 1956, 1978). However, both personal knowledge and situated knowledge have separately been advocated as being essential for learning. I would suggest that the learning that can occur within a dyad has been overlooked. My research has put the midwife mentor/student midwife dyad in the spotlight. The evidence demonstrates that reinforcement of mentoring structures is required. This needs to start with re-positioning the mentor and student to a central position. Placing the dyad more centrally has potential to produce synergistic benefits for the learning environment. With increased accountability for mentors but no concomitant investment for the role, we need to ask whether the mentor can be an effective conduit in contemporary practice settings.

7.5 Mindful mentoring
The embodied knowledge within the midwife mentors needs to be untapped by the student midwives. This demands a model centred on ‘mindful mentoring’ that celebrates articulation of interpersonal and tacit knowledge as well as formal theoretical knowledge
for practice. The research has also identified the power of the unwritten, unspoken, 'covert' curriculum and the need to legitimise non-formal aspects of learning. With demographic changes affecting midwifery as a profession, the passing on of professional expertise in a way that promotes transferability of knowledge and skills in a range of practice settings and complex situations is increasingly crucial.

In this research, I have isolated more than twenty examples of descriptions of learning which lacked formal teaching, but were expressed by the sample of student midwives as being significant to their practice learning and development of craft knowledge. The taken-for-granted, day to day learning has not been captured in this way before. It is this element which makes a significant contribution to this area because the non-formal learning provides fertile potential learning and therefore needs to be made more visible. Key tenets within a framework for teaching have been used. Successful mentorship can be achieved through a socio-cultural lens, using concepts such as sponsorship, scaffolding, fading and the zone of proximal development.

How students are assisted to move from 'knowing-in waiting' to 'knowing-in-use' appears to be highly individualised. The idiosyncratic nature of student midwives' learning means that whilst findings are not widely generalisable, an extensive range of learning issues have arisen. There are descriptions within the data of ways mentors attempted to transform epistemic knowledge (formally presented in books etc) into phronetic knowledge (craft wisdom). There were also a lot of lost learning opportunities for students and examples of 'pseudo-mentoring'. Unsystematic models of mentoring were sometimes operating, leading to incomplete learning cycles. Teaching activities also need to be conducted in parallel with service instead of in 'occasional stolen moments' (Brigley and Robbé 2005, p 138). This means that mentors are equipped with 'adequate conceptual and empirical preparation for the realities of the mentoring relationship' (Cohen 1995, p 2). The relational elements of practice learning cannot be underestimated and we should perhaps consider moving into a transformational model such as that suggested by Phillips et al (2000). The dynamics of social episodes have a powerful effect on the socialisation of student midwives into the culture of midwifery and the learning of complex skills which are transferable. These social episodes may contain latent knowledge and rich latent talent of mentors, which needs to be untapped, mobilised and made visible.
The coaching component of the mentor role appeared to be used minimally across my
data set, according to the perceptions of the students. This has implications for
improving the ‘fading’ part of the cognitive apprenticeship model. The benefits of good
cohaching can have far reaching benefits and investment therefore needs to be made so
that mentors feel prepared for this vital part of their role.

7.6 Making space for formative dialogues
Reflection processes need to be further examined so that non-formal as well as formal
elements of teaching and learning are included. A focus needs to be placed on the
formative dialogues, which currently appear to occur in the shadows of many maternity
care settings. What will provide a challenge is how we re-shape mentoring practices so
that the non-formal elements are captured in practice assessment. The formative
assessment seems to be central to this and yet findings from this research suggest there
was little preparation, planning or structured follow-up by mentors or student midwives to
show a commitment to the inherent value of the taken-for-granted daily practices.

Mediation of learning through eliciting (drawing out) and articulating practical craft
knowledge revealed the power of disclosure by mentors on students’ learning. Non-
formal learning episodes were sometimes found to have a profound effect on student
midwives in the sample. As suggested in Chapter One of this thesis, formal learning
involves tangible, measurable assessment. I have argued that speech (including non-
verbal signs and semiotics) is a powerful tool for teaching and learning. As posited by
Vygotsky (1956, 1978), it has potential for development of higher cognitive functioning.
Therefore, the zone of proximal development needs to be identified so a learner can
perform just above their current developmental level. I suggest this is a central concept
to enable learners to move from reactive to deliberative learning (Eraut, 2000).

Several student midwives in the sample appeared to be performing using multiple
intelligences (Lazar, 1991). These often included emotional, social and cognitive
competencies but many of these inert skills went unrecognised by the mentors. Equally,
midwives with a mentoring role were often observed by students to be role modelling
excellent care but this professional practice was rarely discussed within the pairs. I
suggest this creates lost learning opportunities for learners. The dearth of formative
dialogues provides the impetus to test a tool, designed specifically for dyadic purposes.
It could be used incrementally throughout a student's placement, the focal activities being arranged around the formative assessment. The rationale for this 'formative toolkit' is to bring all formative activities to the surface for 'illumination' (Moustakas, 1990). This could provide a record of non-formal learning episodes and help to explicate the artistry that forms the essence of midwifery practice. Kennedy and Shannon's study (2003) used narratives told by exemplary midwives. A theme which emerged from their data was 'presence' (the physical act of being 'with woman'). I suggest this concept could be examined and interpreted to be inclusive of mentor 'presence' in both formative and summative activities. There is a need for research to test the possibilities of a formative toolkit as, to my knowledge, there is no such tool in circulation. Illuminative enquiry could be a successful method to explore this further.

The next section identifies recommendations for students and their mentors.

7.7 Recommendations

This research study has demonstrated that many assumptions are made regarding transferability of knowledge and skills from mentors to student midwives. This obviously impacts on the theory practice gap and how individual (embodied) knowledge and collective (embedded) knowledge are supported in practice. Inclusion of the tacit domain is necessary so that integration of tacit and explicit knowledge is woven into daily practice. The central message is that a structure or model for supporting non-formal learning in practice is needed. The following recommendations are intended to be inclusive of all relevant stakeholders.

To inform the pre-registration curriculum for student midwives:

Modified knowledge maps, which encompass both a formal and non-formal framework, could be introduced into the curriculum to help guide student midwives' building of practice knowledge. These need to be linked with the skills clusters as advocated by the Nursing and Midwifery Council (NMC, 2006). Maps need to be reviewed regularly by mentors and practice teachers and could be a central tool to promote 'impactful' discussion during formative assessments (Gibbs, 2004). This could assist in improving reliability of current assessment tools and contribute to personalised learning. The findings from this study show the importance of continuous assessment being a systematic, responsive process and the need for progression plans for student midwives.
Language as a tool for learning could be explored further through metaphor workshops. Metaphors from students could form the basic core of these workshops, to encourage peer discussion in narrative form of elements of practice which might otherwise remain hidden. Analysis of the language-in-use is needed by midwifery educators during reflection sessions within peer groups. Language as a tool to transmit craft knowledge needs to be more fully exploited. Use of guided metaphor offers new ways to plan personal learning. Formative conversations, such as debriefing by mentors following a birth, need to be recorded in order to capture the dominant metaphors.

A stronger emphasis on student 'voice' would help illuminate mechanisms for transfer of craft knowledge. Additionally, sharing of narratives with peers could help shed light on the strategies student midwives used to circumvent difficulties encountered to learn from mentors in practice. Using segments of audio-diaries as mini-narratives could be introduced into the curriculum to help identify where situated support may be strengthened. These segments would have to be introduced very sensitively, observing Yonge and Myrick's (2001) ethical principles. Confidentiality is paramount. However, increased use of student 'voice' will contribute to educational policy, promoting conscious reflection as an ongoing dialectical process.

It would appear that more practical skills support generally is required for student midwives at all levels in practice. The students' accounts in their diaries demonstrated that a dearth of teaching aids and visual aids were apparently used by mentors to reinforce learning in practice. More research is required to identify levels of support needed for senior student midwives undertaking community visits on their own and 'confidence' cases.

The preceding data provide evidence that additional training for student midwives is required to provide adequate preparation for dealing with emergency situations in the range of practice settings. Tensions from being supernumerary were repeatedly articulated in the sample. Debate is necessary to reach consensus as to what supernumerary actually means. Whilst some students reported feeling 'marginalised' (Brady, 2003) others cited examples where they felt used as a qualified member of staff or 'collared' as a maternity support worker. It is also recommended that students have additional support and training to prepare for caring for women having late terminations.
of pregnancy. An increased range of service users could be invited to contribute to the pre-registration curriculum. Logs of women's journeys could also be compiled, to trigger learning (Goom, 2003).

In summary, this research evidence indicates that student midwives need more ‘hands on’ experience; longer clinical placements; more than two days per week in practice and increased learning conversations in clinical practice.

To inform initial preparation of mentors:
Due to the lack of a universal definition of mentoring, role clarity is essential. Examination of models such as that used by the Canadian Nurses Association (CNA) could be utilised as a basis for discussion of role definition in the United Kingdom. As both the literature and data show, more attention to the interpersonal domain is needed so that the mentor relationship is robust (Higgs and Titchen, 2001; Magill-Cuerden, 2004). Remuneration for mentoring is necessary, to provide incentives to mentor well.

A wider range of ‘tools’ need to be used by mentors to assist clinical supervision and teaching of students. This includes subtle instruction strategies such as use of the self in teaching, for example, communicating to the student using subtle signals and gestures. Expectations of student midwives need to be verbalised early in a placement to prevent the ‘culture shock’ described by Student A on her experience in the operating theatre. Both short-term and longer term learning outcomes need to be discussed, based on the student’s prior learning history. My research shows that attention to theories regarding memory and learning is required by mentors. Additionally, specific instruction about the Zone of Proximal Development (Vygotsky, 1978) would assist mentors to plan individual learning more effectively and aid students to reach their full potential.

Language as a tool for learning could be explored further through metaphor workshops. Metaphors from students could form the basic core of these workshops, to encourage discussion in narrative form of elements of practice which might otherwise remain hidden. Mentor updates and ongoing mentor development sessions could feature some thought-provoking metaphors from students, to stimulate focused discussion centred on student experience.
Student learning journeys and logs could be recorded in various media for example, on audio-tape, providing examples from analysed data in this study, for example: The 'language of fear and containment' and the 'language of tacit understanding'. This is because the majority of students verbalised challenges in practice so eloquently. Audio-clips need to be heard during the initial mentor preparation, in tandem with relevant educational theories. Trainee mentors need to hear how 'overwhelming' it is to perform in the 'intimate' space in practice (Dalton, 2005). More research is needed which deconstructs intimacy as a concept, thus aiding mentors to guide student midwives more effectively through the spaces and domains in clinical settings.

The data from my study show clearly that how feedback on performance is presented to learners (intrinsic and extrinsic) is so important for promoting deliberative learning that this needs to be rehearsed by trainee mentors in skills laboratories, then filmed and reviewed by each mentor. Feedback that is impactful (Gibbs, 2004) enriches and personalises the learning. This would prevent student midwives performing in a vacuum, having missed out on systematic debriefing from previous clinical experiences. Constructive help from midwifery lecturers and supervisors of midwives is needed for dealing with borderline and failing student midwives.

Use of techniques involving cognitive apprenticeship techniques, such as scaffolding and fading, could be embedded more firmly in the mentor preparation programme. The absence of 'fading' as a teaching strategy was certainly a major finding in my study. How mentors support students to work in the zone of proximal development contributes to inter-mental learning whilst fading assists learners to accomplish intra-mental learning, enabling decontextualisation and transfer of knowledge and skills to a new context. If Vygotsky's (1956, 1978) theories were introduced into preparation programmes for mentors, I believe that mediation of learning and the relevance of socio-cultural tools for teaching would receive a higher profile. Learning is an internal process but cognitive processes can be enhanced through active teaching within an active social environment. This means that attention should also be paid to coaching activities of mentors.

This research indicates that emotional and social intelligence workshops also need to be embedded into mentor preparation programmes. Although there are curriculum implications due to an already full programme, I would suggest that emotional
competence is essential for managing the mentor relationship and embedding of this skills set is therefore an investment.

**To inform ongoing development of mentors**

The mentor preparation programme could include an 'enhancement' workshop, to include non-formal learning theories and specific time devoted to interactive discussions focused on untapping craft knowledge. Additionally, there still appears to be a lack of clarity regarding the mentor role. In particular, the mentor/ coaching interface appears to be blurred.

Excellent definitions which provide generic clarity can be found on electronic mentoring website, some of which include online mentoring 'maps'. The web address is: (www.mentorsonline@apesma.asn.au).

Action learning sets have been found to be extremely helpful in some areas. Structured reflection on practice such as this aids anchoring of learning and promotes self-assessment of the specific mentoring role. To assure mentor competence a 360 degree assessment could be performed, using a similar tool to that used at the University of West of England in Bristol.

**To inform inter-disciplinary practice**

Some learning materials to inform best practice in mentoring could be presented in a range of formats across disciplines, for example, General Practitioners, Obstetricians and Maternity Care Assistants. This promotes interactive problem solving and identifies components of cognitive apprenticeship used across disciplines. More research is needed which investigates the learning environment as a whole and which draws on completed work on expansive learning environments (Unwin, 2004).

**To inform Government and educational policy**

It would appear that non-formal learning needs to be taken more seriously on all levels. Short cuts are being proposed to help reduce funding of professional learning. My research demonstrates that, to accommodate the 'personalised learning' agenda, learning supports need to be reinforced and not stripped away. I suggest that the educational audit is not inclusive enough of non-formal and relational aspects of learning. Increased financial investment is necessary and this includes separate funds
for performing research in midwifery education. Investment is also needed to protect time and space for the mentor/student dyad to work effectively together. Situated support needs to be strengthened for both student midwives and infrastructures put in place to support the mentors. A manpower study needs to be centrally commissioned which focuses on the impact of part-time midwives and the knock-on effects on quality of mentoring in midwifery practice settings. Research such as this, needs to have high priority to enable realistic planning of the workforce and also educational outcomes. Further research also needs to encompass testing of a formative assessment tool to help put non-formal learning on the agenda.

7.8 Summary
Formative assessment processes urgently need re-visioning. A new style of recording the information through formative conversations in practice is required. Emphasis should be on feedback to students being non-judgmental and non-reactive. My research evidence reveals the need to make far better use of and capitalise on informal learning 'spaces' in practice. Formative dialogues did not occur frequently enough to support non-formal learning and specifically, movement from reactive to deliberative modes of learning. Examples of situations in which formative dialogues could be activated are:

Handovers at shift changes or in teams in the community
Ward rounds and round table case discussions such as incident reviews
Action learning sets
Skills laboratory sessions-recording micro-skills and communication styles
Formative assessment sessions
Afternoon learning 'clinics'
Portfolio building, possibly building in electronic portfolios
Triggers, for example, metaphors, photos, pictures

For students: A new style or method of articulating the complexities of practice experiences are needed. This could be in the form of modified diaries as student engagement in this activity was generally positive. Recording practice know-how during reflection within dyads could contribute to maximising the potential of the student midwives. The formative toolkit, which is a blending of Moustakas' (1990) and Fish et al's (1991) models could be formally tested out as a dyadic tool.
As stated in Chapter Two of this thesis, mentoring provides the cornerstone to students' learning craft knowledge. Mentors and their students need to be re-situated so that they are not marginal but central to clinical education delivery. Learners need to feel nurtured and must be valued. Additional funding is therefore required so that time can be protected (NMC, 2006).

It is time to examine what is missing in the mentoring. This means ensuring fertile educational environments so that confidence and cognition grow in tandem (Brigley and Robbé, 2005). Mentor preparation programmes could include practising of challenging aspects of supervision, teaching and assessment in clinical skills laboratory conditions. This would promote rehearsal of, for example, debriefing a student, in safe, controlled conditions. Mentor updates perhaps need to be attended more than once annually. An interactive seminar format may encourage attendance and active participation.

Practical implications and added accountability within mentoring roles (Pellatt, 2006) mean that increased support is required for the role. Deery (2005) suggested new styles of supervision of midwives but perhaps it is time to consider separate supervision for mentors. This would need to include individual clinical supervision for mentors and support teams for ongoing support.

To conclude, the site of knowledge production and genesis of midwifery know-how needs more empirical work. My research has revealed that re-visioning practice education using workable models with the mentor/student dyad positioned at the centre will help us tap into what lies at the interface between learning and caring. The organic, embedded knowledge provides the essence of a midwife's know-how and artistry. The generative effects cannot be realised without finding strategies and means for fuelling the 'surfacing' of the vibrant, contextual depths of midwives' rich craft knowledge stores.

A committed mentor in our lives can have a transformational, meaningful impact as a "talisman...a midwife to our dreams" (Daloz, 1990 p 17).
APPENDICES
University of Surrey
School of Educational Studies
Centre for Research in Nursing and Midwifery Education

Learner’s Diary

Guidelines for completion

Thank you for agreeing to participate in this research study. Please complete the diary over ten days during the placement. Try to make entries as soon as possible after the shift and independently.

The diary is completely confidential and will not be shared with anyone outside our research team.

Start each new entry by speaking the date if using a tape recorder (or on a new page) and use the following questions as a guide to your diary work. If you want to add any other thoughts which you feel affect the student’s learning experience or development as a midwife, please enter these also.

Some of the sections may not be relevant on the day and in this case, please go on to the next cue.

We will agree when you will start to keep your diary and I will phone you approximately one week afterwards. We can discuss any queries you may have and make arrangements for the collection of the entries you have made so far. I will also make arrangements to contact you again the following week.

If you have any queries before I am due to get in touch, please do not hesitate to contact me. If you cannot contact me personally please leave me a message and I or a colleague will get back to you as soon as possible.

Local Research Midwife: Name .........................................................
Contact Details .................................................................

Research Co-ordinator: Gina Finnerty
School of Educational Studies
University of Surrey
Guildford, Surrey GU2 5XH

Tel: 01483 879755
Email: G.Finnerty@surrey.ac.uk
Please use the following to guide your writing:

- Date
- Place of work (eg. community, hospital, clinic etc)
- List areas of activity eg. postnatal checks, antenatal clinic

Your learning of midwifery practice

- What was important to you about your experience in the clinical area today?
- What went well?
- What could have been better?

Support in practice

- Identify who was supporting you in practice today and how this affected your learning.
- Identify particular aspects of practice which you are currently wanting to develop? (this may be skills, knowledge base, confidence)
- In relation to these goals, what went well?
- What could have been better?
- Please feel free to write about any other issues you feel either enhance or inhibit your learning and confidence levels
"Advisory standards for mentors and mentorship

Communication and working relationships enabling:
- the development of effective relationships based on mutual trust and respect
- an understanding of how students integrate into practice settings and assisting with this process
- the provision of ongoing and constructive support for students.

Facilitation of learning in order to:
- demonstrate sufficient knowledge of the student's programme to identify current learning needs
- demonstrate strategies which will assist with the integration of learning from practice and educational settings
- create and develop opportunities for students to identify and undertake experiences to meet their learning needs.

Assessment in order to:
- demonstrate a good understanding of assessment and ability to assess
- implement approved assessment procedures.

Role modelling in order to:
- demonstrate effective relationships with patients and clients
- contribute to the development of an environment in which effective practice is fostered, implemented, evaluated and disseminated
- assess and manage clinical developments to ensure safe and effective care.

Creating an environment for learning in order to:
- ensure effective learning experiences and the opportunity to achieve learning outcomes for students by contributing to the development and maintenance of a learning environment
- implement strategies for quality assurance and quality audit.

Improving practice in order to:
- contribute to the creation of an environment in which change can be initiated and supported.

A knowledge base in order to:
- identify, apply and disseminate research findings within the area of practice.

Course development which:
- contributes to the development and/or review of courses."

From: Preparation for Mentors and Teachers (ENB 2001)
APPENDIX THREE

APPENDIX 3-Discourse analytic transcription, using the Jefferson method
(1984)

[W98;SI;25] Extract headings refer to the parts of the data as identified in the collection of the researcher who gathered the material.

some [talk] Square brackets between lines or bracketing two lines of talk indicate the onset (I) and end (J) of overlapping talk.

end of line= Equal signs indicate latching (no interval) between utterances.

() Untimed pause (just hearable; <.2 sec.)

(1,2) Pause timed to the nearest tenth of a second.

bu- A dash shows a sharp cutoff of speech.

underscere; sic Capital letters indicate talk that is noticeably louder than surrounding talk.

*soft* Degree signs indicate talk that is noticeably more quiet than surrounding talk.

<fast> "Less than" and "greater than" signs indicate talk that is noticeably faster or slower than the surrounding talk.

<slow> A colon indicates an extension of the sound or syllable that it follows.

↑ word ↓ word Upward and downward pointing arrows indicate marked rising and falling shifts in intonation in the talk immediately following.

"? ! Punctuation marks are used to mark speech delivery rather than grammar. A period indicates a stopping fall in tone; a comma indicates a continuing intonation; a question mark indicates a rising inflection; an exclamation point indicates an animated or emphatic tone.

wghord "gh" within a word indicates guttural pronunciation.

heh or hhh Indicate laughter.

.hh Audible inbreath.

hh Audible outbreath (sometimes associated with laughter).

wo(h)rd An “i” in parentheses denotes laughter within words.

rilly Modified spelling is used to suggest pronunciation.

(word) Transcriber’s guess at unclear material.

( ) Unclear speech or noise.

[(coughs)] Double parentheses enclose transcriber’s descriptions of nonspeech sounds or other features of the talk ((whispered)) or scene ((telephone rings)).

[a local pub] Brackets enclose contextual or explanatory information.

... Horizontal ellipses indicate talk omitted from the data segment.

. Vertical ellipses indicate intervening turns omitted from the data segment.

→ A horizontal arrow in the left margin points to an utterance discussed in the text.

Note: repeated symbols, for example, ::, ::, and hhhh, indicate, respectively, greater elongation, quiet, outbreaths, and so on. Speakers may be identified by letter, pseudonym, or role (e.g., counselor). Lines are usually numbered, particularly in long excerpts.

University of Surrey  
School of Educational Studies  
Centre for Research in Nursing and Midwifery Education

Research Project: An investigation into the preparation and assessment for midwifery practice at pre- and post-registration level.

I, the undersigned, a student at .................................. I have read the accompanying information regarding the above-named research project and understand the nature of my participation in this project. I am happy to participate in this project and to be interviewed/completed a diary/be observed in clinical practice.*

I understand that my participation is voluntary and that my signature does not affect my right to withdraw without prejudice from the research process at any time.

Name ............................................................

Signature ......................................................

Date ..............................................................

*please delete as appropriate

Local Research Midwife: Name ............................................................
Contact Details ............................................................

Research Co-ordinator: Gina Finnerty
School of Educational Studies
University of Surrey
Guildford, Surrey GU2 5XH

Tel: 01483 879755
Email: G.Finnerty@surrey.ac.uk
APPENDIX FIVE

A SAMPLE OF DATA FROM STUDENT A'S AUDIO-DIARY  DI/S/225

I've just finished a shift on Labour Ward. We have been looking after a few good patients today – admissions. It's quite a good day to start on, because at the end of the day I had my mid-point assessment, which I was dreading a bit. I mean, I know Labour Ward, especially in your second and third year as a senior student, can be quite difficult. Quite a lot of demands are put on a student, there's a lot expected of you, but My mentor¹ – what an angel she is.

She started by discussing what I thought I'd accomplished. I told her I was a lot more settled on the ward and she agreed with this. She said that even though I hadn't been there for long, that not only herself, but other members of the team felt like I was a member of the team. I told her that I was quite worried about complicated labours because I hadn't really had much exposure. She said that it would come. She said not to worry about it, it's just that we were very lucky really because a lot of the ladies that we see end up being normal deliveries, which is great for the lady, but it's not really doing a lot for my confidence, looking for deviations from the normal, which is something stressed for other senior students.

The actual assessment itself went really well. My mentor decided to point out a lot of my good points – good points that I came to the ward with. She stressed that my people skills, my 'feeling' for the woman and her family, my care showed, that I really did want the best and that I treated each woman individually and that I gave them 100 per cent. She said she knows that if she leaves the room, the woman could be pretty hysterical, but when she comes back she knew I'd be counting through a contraction with her, I'd have her calm, the family calm. I mean, this is something that I hadn't really noticed. I suppose on the inside you don't, but she had on the outside, looking in, watching me, and this really, really boosted my confidence. I just saw it as something natural to do, but My mentor pointed out that this was such a strong point of mine, and it was a skill I came to the ward with – it's not really something that you can learn. This made me feel really good about myself. Of course, it helps that My mentor is that type of person herself. She also pointed out that I'm willing to get stuck in and try anything, anything at all. She says that I'm really committed and I don't mind if another member of staff asks me, even if I'm really, really busy, I'll just go and do it. I just feel that that is just working as part of a team. Again, I think it's watching My mentor. She does set a really good example. I mean, there are other midwives I've seen who really don't seem as motivated as My mentor and My mentor gives 100 per cent on every shift.

My mentor did ask me whether her being a Shift Leader – did she think this was detrimental to my learning. I don't think so personally. I really don't think so – My mentor would not leave me in a situation that she did not think I was capable of handling. She reads people very well and she reads situations very well and I really don't think she'd leave me unless she thought she could.

At the end of the assessment there were recommendations for future practice and My mentor put in “complicated deliveries, such as caesarean sections”. My exposure in Theatre hasn't been great and Theatre does frighten me a lot. It's not just that it's a major operation, it's that I just feel like a fish out of water. I've only been in a couple of times and both times have been observing. You really do feel

¹All names have been removed to protect anonymity of the participants. The mentor's name is replaced by 'My mentor'.
that you don't belong, you're intruding, but My mentor of course, pushing me to the forefront to get closer in to have a good look – something I did want to do, but I didn't have the confidence to ask. My mentor seemed to read my mind and sort of just pushed me in.

She also said that we needed to take a few babies again – something that absolutely terrifies me. I have had a couple of babies with very low APGARS. It really is frightening. I watch the midwives and they have such confidence, and they're so fast, and you do stand there thinking "Can I ever do this? Will I ever be able to do this?" My mentor promises that before we finish this term, we will have a go at taking some babies. I don't know how I feel about that. I don't know whether I'm happy or terrified.

I do know what she means about the complicated deliveries. We haven't really had many deviations from the normal, thank God. A lot of the other students have. There's one particular student who seems to get nothing but complicated, and speaking to her, I just feel like she knows so much and I don't. My mentor has begun to discuss with me "what-if" scenarios because she knows that these complicated deliveries are eating away at the back of my mind. I mean, would I notice a subtle deviance from the normal, so these "what-if" scenarios are really being a big help at the moment.

It's the 8th November 2000. I've just come off an absolutely mental late shift. Again, My mentor was my mentor tonight. We were on the Labour Ward and My God, where do I start?

At the beginning of the evening it was quite quiet. We had a couple of ladies in. One of the ladies was a lovely low risk lady and My mentor decided that it was maybe time for me to take a bit more responsibility and to take over the main care of this lady. She was a lovely young lady with a supportive partner. When we came in she was in early labour, so My mentor had a pep talk with me, went through asking me questions "What would I be monitoring? What would I be observing? What, if any deviations I picked up, would I think needed to be reported to My mentor?" which is great, when you go into that situation. You come on a shift and you never know what you're going to face. The little pep talk just before, like a little on-the-spot reminder, is a big help. She introduced me to the lady and she actually said to the lady that the student will be taking the best part of your care tonight. She then said, in front of me, she's a bit embarrassing, but brilliant "She's a brilliant midwife – I'd let her deliver one of mine any time." I know My mentor means this. Some people, some midwives, some other staff, they can give you encouragement and compliments, but I know that when My mentor says things she actually means it. This is such a confidence-booster...

...There was a bond of respect built between My mentor and I. Obviously I came to the ward and respected My mentor enormously. It's not just the experience that you have, it's her whole approach and attitude to practising midwifery. She puts the 'care' in carer. She actually cares about the women in the family that she's looking after, and this really does rub off on you. You can, yourself imagine her caring for you and knowing that's the care that you'd want.

It became obvious that this lady was going to need an episiotomy. I have actually done one episiotomy, the cutting itself, but I'd never infiltrated and My mentor just looked over. We actually both looked at each other at the same time – this lady is going to need an episiotomy. So, My mentor went through with the episiotomy step by step. I was very, very nervous, but this was a big hurdle that I knew I had to overcome. I think I was looking forward to it in one way, dreading it in another. It's
not the most natural thing in the world to do to somebody. My mentor was very patient, very, very patient. The needle came out at one point and she just— at that point, you'd think she's expect me to hand it over, but she has this look, this look says "you can do it, carry on" and I did carry on. I did a successful episiotomy. The baby was delivered— fantastic APGAR— 10 at one minute. It was so rewarding. When you look over, and My mentor was smiling at me as if to say "Didn't we do well?" It was absolutely fantastic. She told me that I was to be really proud of myself.

At that point, after the baby had been checked, everything was OK. I shot back to see my lady, who was coping well. She had an epidural in and she was starting to feel windows of pain, so I had to go and report this to My mentor. Epidural top-ups I can't actually administer, My mentor has to deal with this. My mentor was very busy, so I came back and explained to my lady. She began to use the entonox as well, and breathe through, and My mentor said that she would be with us as soon as she could.

When I next shot through to see My mentor she'd just finished suturing this lady. I felt, again, a bit guilty because really I should have done the suturing. This is something I have no experience in really, apart from one stitching—that's nothing compared to what really I feel I should be learning, but a lot of my ladies have been very lucky, and haven't needed any stitches. This is something I feel I need to work on and I did speak to My mentor about it.

I went back in to look after my lady, who reported pressure. I observed and she did have external finds of full dilatation. I asked her to give me a little push and the labia did part and I did see, right in the distance, a little head, so I buzzed My mentor. My mentor came out and we began active pushing my lady. Oh, I forgot to say, how could I forget? This is the most important thing that happened tonight— two hours prior to that my lady was due for a vaginal examination. When I went out and said to My mentor "should we do the vaginal examination?" with the wards being very, very, very busy My mentor said "do you think you could do the examination yourself?" I do feel quietly confident with vaginal examinations. There have only ever been one or two when I've been unsure. At the beginning it was awful, but with a lot of patience from My mentor and an awful lot of good ladies who did not mind two examinations, I feel that I've really greatly improved. So I went ahead and did the examination and reported my findings to My mentor, who said "great". I was quite sure what I'd felt, and this really was a big confidence booster. The only part I feel I don't really is feeling for landmarks and sutures, positioning of the baby. This is something that I feel I really need to work on, and this is something that I think I need to go back to looking at theory as well, so, a bit of research needed there.

Back to the delivery. We got the lady pushing. Great maternal effort, baby was born beautifully and again, no stitches required. Trust it to be me, very, very lucky. At the end of all this, I began to really feel like a member of the team. I'd not only worked alongside the midwives tonight, I actually took some of the burden of care from the midwives and this really, really did make me feel part of the team. Tonight was a really good night.

12th November, 2000. I've just done a shift on Labour Ward. Today I was not with my mentor. She was on, I think, Bank Holiday. I always feel a bit worried when I come on and I'm not with my mentor, and I never know who I'm going to end up with. These are the days that I really miss My mentor. When I walked onto the ward, there was a lady going in for Caesarean Section and I thought to myself, "Right, go on, take the upper hand, ask if you can go in, come on, you've got to get over this fear of
The Theatre. The Theatre really does frighten me. I have said before, I think. It's not just the operation itself, it's that everybody seems to know what they're doing except me. I mean, the midwife doesn't actually have that much to do, but what she does is important, and I always feel like all eyes are on you. There are so many people in a Theatre, this is when you really start to feel you're inexperienced. You feel you're totally out of your depth. I went in with another midwife I've never worked with before — a midwife with a lot of years experience behind her. I was quite surprised that she didn't ask me at what point of my training I was in. I felt she just went in to the Theatre with me as an observer, and that wasn't really what I was after. I've observed before and I really wanted to run through exactly what was expected of a midwife in Theatre.

A lady had been rushed in for an emergency Caesarean Section, sub-optimal CTG and heavy meconium present. I did actually notice that the midwife wasn't oscillating the fetal heart. I mean, Caesarean Section can take sort of twenty minutes to settle and if a sub-optimal CTG was one of the reasons, I did know that really we should listen to the baby's heart every five minutes, so I took it upon myself to go and get a sonic-aid and have a listen in and to remember what the readings were. The midwife hadn't seemed to notice this. I mean, am I looking for praise, am I looking for somebody to say "good girl", "clever girl"? I don't think I am. I just want to know that I am doing the right thing. So I had a listen in until the lady was ready for Section, and then again, I just felt like a fly on the wall, pushed to the back. I really did want to get my hands in and go through. I watched this particular midwife at work and she wasn't the same as My mentor. When My mentor goes into Theatre, again, her compassionate nature comes right through. Up to the point where she must leave the lady, she's sat talking to the lady, even if she's only just met her and she's come down from a ward. Her thoughts are with the woman and the partner all the time, as well as getting on with what she has to get on with. I'd say I miss My mentor when she's not here, especially in these situations that do make me feel awkward, because My mentor always makes me feel like I can do it. She does boost my confidence.

There was a good outcome from the birth, but I really didn't feel like I learnt much today. It felt like a bit more of a let-down. I mean, I suppose any exposure to the Theatre, just getting used to actually being in there is good, but I really did feel like today was just a wasted day. I believe that if I had been with My mentor, things would have been different.

This particular midwife, I haven't seen her with students, I've never seen her actually with a student for any length of time. I haven't really seen her with students for the odd day either. As I said, I did sort of put myself forward and asked if I could go into Theatre with her, so maybe the midwife herself doesn't actually like to work with students. I mean, this may be why I felt like I learnt nothing, because there was no motivation from her to teach.

...I just sort of looked at her [woman in labour]. I really did want to take responsibility for the care, but the distress of the couple played a lot on my mind and I didn't want to give poor care to this couple. They were obviously distressed to begin with and the last thing they needed was a daft student making a mistake. It still remained a big hurdle for me, Theatre. I feel I should be overcoming that now, but it's not even the intimidation of the Theatre any more, all the people, it's the actual responsibility of caring for this baby when it comes out. I mean, why was there a sub-optimal CTG? You know, the thought just terrifies me that something drastic is going to go wrong. My mentor decided that she would just glove up, just in case. So the Section went ahead. I did actually speak to the couple before they began the operation and I
scrubbed up, and tried to reassure them as best as I could. This was all done very, very quickly.

The baby was delivered, well and fine, thank God. It was such a relief. It just required a small amount of suctioning and it was wrapped and taken to Mum and Dad who were absolutely overjoyed. I was so glad everything had worked out well. I took the placenta, checked the placenta, kept an eye on baby, all the time thinking "Don't forget something, you're forgetting something, you're forgetting something" but My mentor was right there behind me, reminding me, guiding me. Again, trying to help me overcome my big fear of messing up. I didn't have an awful lot of time to think following that. We took the baby through, checked the baby. I did actually notice on the baby check, positional talipes and I reported this to My mentor who came through to have a look. Again, she just said "well spotted". It would have been quite hard to miss actually, but I was glad I'd spotted it. We sent the babe and Mum and Dad, feeling a lot better, up to the ward and we came back in to find the ward relatively busy, so we took a lady who was in established labour.

She was a gravida 2 para 1, only a young girl. She was low risk and she wished an epidural, something which I feel a lot better with now. I mean, some of the Anaesthetists can, they can be buggers, they like to make the students flap. I think it's a little game of theirs. My mentor's always saying to me "Don't let them do that to you." She knows the staff so well. An ARM was performed and this lady was progressing nicely. We had a lovely, normal delivery where I had actually managed most of the care. It was becoming more second nature now. She left a lot of the delivery to me, even, I've noticed, leaving a lot of, even guiding the pushing, she was leaving a lot of that guidance to me, taking more and more of a back seat, taking more of the role of the Midwife who was just going to take the baby, whereas I was the Midwife who was delivering and taking care of the woman. I just couldn't even begin to imagine myself to be doing this when I came on this ward 13 weeks ago. Not in my wildest dreams did I think I'd get to this stage so quickly. I really do believe it has a lot to do with the mentorship on this ward, the support and encouragement. My mentor has been a rock, an absolute rock. There have been times when I've doubted whether I wanted to be a Midwife, but one good day with My mentor and I'm back on track. She's always encouraging, always supporting, reassuring "You're only human, you're going to feel this way, you're going to have days when you're just going to go and want to get a job at Marks & Spencer's because it seems so much simpler, but it's normal to feel this way." She's felt this way. The confidence she has in me has given confidence in myself and instead of going 2 steps forward and 1 step back, I feel like I'm just going in leaps and bounds now towards the end of this stint on Labour Ward. I did end the day on quite a high note. We'd had 2 deliveries, one normal and one Caesarean Section. Everything had gone fine and I really do feel like a Midwife. I felt like a Midwife today, not a student. I felt like a Midwife. I know I'm not, it's just me getting cocky, but I did feel like a Midwife today.
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311


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