18th EDINEB Conference
“From Innovation to Crème de la Crème Education”!

June 7 - 10, 2011
IDRAC, Lyons, France

Edited by:
Bart Rienties, Peter Daly, Sandra Reeb-Gruber, Piet van den Bossche
## Tuesday 7 June 2011
### Preconference Workshop (Separate Registration)

<table>
<thead>
<tr>
<th>Time</th>
<th>Workshop</th>
<th>Organizer/Leader</th>
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<tbody>
<tr>
<td>9:30-13:00</td>
<td><strong>Planning Blended and Online Learning for Adults: Motivation and Assessment</strong> (p. 10)</td>
<td>Robert Scully, DBA, Cynthia Davis, PhD, Michael Provitera, Peter Brewer, PhD from Barry University, School of Adult &amp; Continuing Education, Miami Shores, FL</td>
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<td>The purposes of this 3-hour, participatory workshop are to share with EDiNEB colleagues current concepts in planning adult, online learning; and to link current research in Workplace Motivation, Adult Learning (Andragogy) and Assessment, with techniques and suggestions for the design and evaluation of robust online and blended education. Participants will learn ways in which to adapt workplace motivational strategies to the classroom, and ways in which to maximize their students’ prior and experiential learning as they guide students through online courses.</td>
<td>For more information on the workshop leaders, click <a href="#">here</a></td>
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<td>For more information on the workshop, click <a href="#">here</a></td>
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<tr>
<td>13:00-14:00</td>
<td><strong>Lunch</strong></td>
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<td>14:00-17:30</td>
<td><strong>Creating a new Undergraduate Work-based Paradigm</strong> (p. 11)</td>
<td>Prof. Dr. Chris Birch from University of Greenwich, London</td>
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<td>The workshop that Chris will be leading on will relate to many of the issues emanating from the forthcoming changes. It will be participative in style, and hopefully those attending will bring specific perspectives based on their own experience and their countries of origin. Themes will include the (rising) costs, discussion of the benefits of a (formal) higher education, quality (what does it mean!?), models of delivery (blended, work-based?), mode and pace of study (quick, quick, slow), the wider student experience, ageing undergraduates (?!), the end of retirement (as we know it), wider assessment methods recording knowledge, skills, competencies, attitudes and mindsets.</td>
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<td>18:00-22:00</td>
<td><strong>Creativity night: Megastorm</strong> (p. 12)</td>
<td>Mark Raison from Yellow Ideas (<a href="http://www.yellowideas.com/">http://www.yellowideas.com/</a>). (includes snacks &amp; drinks)</td>
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<td>In our line of work, we are often faced with 'the impossible'. Our creative skills are tasked on at least a weekly basis. During the Megastorm workshop bij Mark Raison and Martina Bayers from Yellow Ideas you will not only learn about new creative techniques, but experience them hands-on.</td>
<td>Why should you attend the Megastorm workshop?</td>
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<td>- to challenge your approach of creativity - to discover the dynamic of the Power of Impossible</td>
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<td>- to benefit from Mark Raison's 20 years experience of 'Yellow Ideas', the impossible ideas</td>
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<td>- to have fun a be empowered by an incredible creative energy</td>
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<td>8:30-9:00</td>
<td>Welcome/Coffee/Registration</td>
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<td>9:00-9:15</td>
<td>Opening by EDINEB Board</td>
<td>Ampitheatre B003</td>
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<td>9:15-9:30</td>
<td>Welcome by IDRAC Lyon</td>
<td>Ampitheatre B003</td>
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<td>9:30-10:30</td>
<td>Keynote address by Elspeth Jones (p.14)</td>
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<td>Parallel session 1.1: Curriculum Redesign</td>
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<td>Track 4 Pedagogies and Educational Concepts</td>
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<td></td>
<td>1) Enterprise Education Curriculum Design – lessons from sustainable development pedagogic innovations (p. 15 – 20)</td>
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<td>Helen Dobson, Kurt Allman, Bland Tomkinson, Jonathan Styles (The University of Manchester)</td>
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<td>2) A positive experience in project management training in school management: a contribution to a better control of stress (p. 21 – 29)</td>
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<td>Robert Volsy, Sophie Buer-Chemin (Grenoble Ecole de Management)</td>
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<td>Chair: Chris Birch (University of Greenwich)</td>
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<td>12:00-13:30</td>
<td>Lunch</td>
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<td>13:30-15:00</td>
<td>Parallel session 2.1: Practice Enterprise and Pathways Programme</td>
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<td>Track 1 Work-based Learning</td>
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<td>Track 2 Online and Blended Learning</td>
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<td>1) The Pathways Programme: Navigating educational dilemmas through hybrid virtual-work-based learning (p. 37 – 40)</td>
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<td>Shirine Voller, Martin Lockett, Roger Delves (Ashridge Business School)</td>
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<td>2) Practice Enterprise. A new didactical concept for practice learning in professional higher education (p. 41 – 50)</td>
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<td>Leen Dom, Filip Burgelman, (Mechelen Lessius.eu)</td>
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<td>Chair: Katerina Bohle Carbonell (Maastricht University)</td>
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<td>Parallel session 2.2: Effective design and implementation</td>
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<td>Track 2 Online and Blended Learning</td>
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<td>1) Improving the effectiveness of online elearning systems (p. 51)</td>
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<td>Katerina Papanikolaou, Stephanos Mavromoustakos (European University Cyprus)</td>
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<td>2) An oscar for your (e)course: learning to e-learn by e-learning (p. 52)</td>
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<td>Veerle Meuleman (Mechelen Lessius.eu)</td>
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<td>3) Learning styles and VSC modules: a statistical analysis of perceived and actual effectiveness (p. 53 – 62)</td>
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<td>Don Cyr (Brock University)</td>
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<td>15:00-15:30</td>
<td>Refreshments (Ground Floor)</td>
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<td>15:30-17:00</td>
<td><strong>Parallel session 3.1: Work-based learning (room B404)</strong></td>
<td>1) Educating evidence based managers: encouraging learning with a hospitality industry partner (p. 63 – 67) &lt;br&gt; Peter Juskiw, Lyn Glanz (UAS Les Roches Gruyeres)</td>
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<td>Track 1 Work-based Learning</td>
<td>2) Survival Lessons: Academic Continuity, Business Continuity &amp; Technology (p. 68 – 74) &lt;br&gt; Claudine Schweber (University of Maryland University College)</td>
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<td>3) Raising ethical awareness among MBA students (p. 75 – 83) &lt;br&gt; Roger Cook (University of West London)</td>
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<td><strong>Parallel session 3.2: Internationalization of Education (room B408)</strong></td>
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<td>Track 3 Internationalization of Education</td>
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<td>17:10-18:10</td>
<td><strong>Parallel session 4.1: Adult Education in an Online World (room B404)</strong></td>
<td>1) World-wide converging developments in distance education (p. 97 – 103) &lt;br&gt; Herman van den Bosch (Open University of the Netherlands)</td>
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<td>Track 2 Online and Blended Learning</td>
<td>2) Sharing Knowledge with the help of a safe communication climate (p. 104 – 111) &lt;br&gt; Katerina Bohle Carbonell, Anber Dailey-Herbert, Mien Segers (Maastricht University)</td>
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<td><strong>Parallel session 4.2: Leadership in Business Education (room B404)</strong></td>
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<td>Track 5 Miscellaneous</td>
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<td>19:00-00:00</td>
<td>Conference dinner &amp; Dance Downtown Lyon</td>
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### Thursday 9 June 2011
### Research-focused / evidence-based

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<tr>
<th>9:30-11:00</th>
<th>Parallel session 5.1: Knowledge and Work-based Learning across Disciplines (room B404)</th>
<th>Parallel session 5.2: Pedagogies and Educational Concepts (Part I) (room B408)</th>
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<tbody>
<tr>
<td>1)</td>
<td>UK Export Controls: A case-study in compliance training and education (p. 127 – 134)</td>
<td>1) Overcoming disciplinary constraints: Design thinking and transformative educational experiences. (p. 143 – 148)</td>
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<td></td>
<td>Peter Jolliffe, Piers MacLean, Venkat Sastry (Cranfield University)</td>
<td>Martha Ann Welsh, Gordon Dehler, Craig Vogel (University of Cincinnati, College of Charleston)</td>
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<td>2)</td>
<td>Delivering Business Knowledge in Accounting (p. 135 – 140)</td>
<td>Making claims to knowledge: A learning-centered approach to enhancing student understanding (p. 149 – 155)</td>
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<td>Leslie Blyth (Grant MacEwan University)</td>
<td>Gordon Dehler, Martha Ann Welsh (College of Charleston, University of Cincinnati)</td>
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<td>3)</td>
<td>Knowledge availability, innovation logics and institutional rules coevolution in bioindustry (p. 141 – 142)</td>
<td>Enhance group learning and personal development: the role of structure and peer feedback. (p. 156 – 164)</td>
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<td>Xavier Parisot, (Champagne Graduate School of Management)</td>
<td>Anthony Willis, Peter Alcott, Bart Rienties (University of Surrey)</td>
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<td>Chair:</td>
<td>David Laughton (Sheffield Business School - Sheffield Hallam University)</td>
<td>Piet Van den Bosche (Maastricht University)</td>
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| 11:00-11.30 | Refreshments (Ground Floor) |

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<tr>
<th>11:30-12:30</th>
<th>Parallel session 6.1: Creativity and Notions of Belonging (room B404)</th>
<th>Parallel session 6.2: Innovations in Management (room B408)</th>
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<tbody>
<tr>
<td>1)</td>
<td>Fostering Creativity in Business Education – The Creativity Night at a French Business School (p. 165 – 172)</td>
<td>Perspectives and practice: Making the MBA relevant to the 21st century manager (p. 175 – 181)</td>
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<td>Peter Daly, Isabelle Sequeira (EDHEC Business School)</td>
<td>Kristen Reid, Sarah Robinson, Paul Quintas (The Open University Business School)</td>
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<td>2)</td>
<td>Notions of Belonging: the Students’ Perspective (p. 173 – 174)</td>
<td>Sport Management and Education: some lessons from experience (p. 182)</td>
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<td>Guglielmo Volpe, Linda Johnson, Helen Pokorny, Ronke Shoderu, Debbie Holley (Queen Mary, University of London, London Metropolitan University, Westminster University Anglia Ruskin University)</td>
<td>Alain Arvin-Berod, Marc Humbert, François Leccia, Jerôme Meyer (Grenoble Ecole de Management)</td>
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<td>Chair:</td>
<td>Gordon Dehler (College of Charleston)</td>
<td>Herman Van den Bosch (Open University of the Netherlands)</td>
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<td>12:30-14:00</td>
<td>Lunch (Ground Floor)</td>
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<td>14:00-15:00</td>
<td>Keynote Address by Peter Jarvis: Teaching Whole People Through Distance Education (p. 183) (Ampitheatre B003)</td>
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<td>15:00-15:30</td>
<td>Refreshments (Ground Floor)</td>
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| 15:30-16:30  | **Parallel session 7.1: The Role of Teaching in Online Learning (room B404)**
|              | Track 2 Online and Blended Learning                                   |
|              | 1) Transformation in teaching and learning in higher education (p. 184 – 193)
|              | Jessica Lichy, Lori Turner, Jonathan Britten (IDRAC, Chester Business School) |
|              | 2) Changing teacher beliefs and intentions towards ICT: can training make a difference? (p. 194 – 202)
|              | Bart Rienties (University of Surrey), Natasa Brouwer (Universiteit van Amsterdam), Katerina Bohle-Carbonell & Danielle Townsend (Maastricht University), Anne-Petra Rozendaal et al. |
|              | **Parallel session 7.2: The role of feedback (room B408)**
|              | Track 1 Work-based Learning                                           |
|              | 1) Knowledge work-based practices (p. 203 – 210)
|              | Hajë Hyseni, Brown Chris (Business School, University of Hertfordshire) |
|              | 2) Feedback in Teams: a Review (p. 211 – 213)
|              | Catherine Gabelica, Piet Van den Bossche, Mien Segers, Wim Gijseelaers (Maastricht University) |
|              | **Chair:** Claudine SchWeber (University of Maryland University College) |
| 16:45-17:45  | **Parallel session 8.1: Track 4 Crème de la Crème Pedagogies and Educational Concepts: Lifelong Learning and Employability (room B404)**
|              | **Parallel session 8.2: Track 4 Crème de la Crème Pedagogies and Educational Concepts (Part II) (room B408)** |
|              | 1) Lifelong learning and sustainable employment (p. 214 – 223)
|              | Marjolein Caniëls, Tinka Van Vuuren (Open University of the Netherlands) |
|              | 2) University Alumni Feedback on employability skills development - what's done well and not so well (p. 224 – 232)
|              | David Laughton (Sheffield Business School, Sheffield Hallam University) |
|              | 1) Assessing Economic Competencies (p. 233 – 234)
|              | Klaus Macha, Michael Weyland, Hans Jürgen Schlösser, Michael Schuhén (University of Siegen) |
|              | 2) Educationally validated Restaurant Simulation will impact 21st century foodservice education! (p. 234 – 242)
|              | Bernard McEvoy, David Martin (Ted Rogers School of Hospitality & Tourism Management, Ryerson University) |
|              | **Chair:** Peter Juskiw (Glion Institution of Higher Education)        |
|              | **Chair:** Steve Reeve (University of Brighton)                        |
| 18:00-19:30  | EDINEB General Members Meeting (Members only p. 281)                   |
**Friday 10 June 2011**

**From Innovation to Crème de la Crème Education**

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<td><strong>Parallel session 9.1: Online and Blended Learning</strong>&lt;br&gt;(room B404)&lt;br&gt;Track 2 Online and Blended Learning</td>
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<tr>
<td><strong>Parallel session 9.2: Pedagogies and Educational Concepts (Part III)</strong>&lt;br&gt;(room B408)&lt;br&gt;Track 4 Pedagogies and Educational Concepts</td>
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<tr>
<td>1) Creating and Assessing Blended Classes for Adult Learners (p. 244 – 248)&lt;br&gt;<em>Cynthia Davis, Peter Brewer, Robert Scully, Michael Provitera (Barry University)</em></td>
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<td>1) Redesigning the classroom to enhance knowledge spillovers: the role of friendship versus group work (p. 262 – 270)&lt;br&gt;<em>Nuria Hernandez-Nanclares, Bart Rienties, Piet van den Bossche, Juliette Hommes (University of Oviedo, University of Surrey, Maastricht University)</em></td>
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<td>2) Blended Learning: Bringing Remote Teams and Cross-Cultural Education into the Classroom (p. 249 – 258)&lt;br&gt;<em>Harald Herrig, Rémy Magnierwatanabe, Caroline Benton, Olivier Aba (Grenoble Ecole de Management, Tsukuba MBA/IB)</em></td>
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<td>2) Economic Independence : Markets or Reframed Legitimacy Seeking for UK HEI’s? (p. 271)&lt;br&gt;<em>Steve Reeve (Brighton University)</em></td>
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<td>3) On the prejudice of Multi Media streaming (p. 259 – 261)&lt;br&gt;<em>Gwen Noteborn, Bas Giesbers (Maastricht University)</em></td>
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<td>3) Can statistics be fun? The benefits of incorporating research elements into MBA courses (p. 272 – 279)&lt;br&gt;<em>Bernadett Koles, Tibor Voros (CEU)</em></td>
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*Chair: Peter Jolliffe (Cranfield University)*

*Chair: Seth Agbo (Lakehead University)*

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<td>Panel discussion with students (Ampitheatre B003)</td>
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<td>Reflections by EDINEB Board and best-paper award (Ampitheatre B003)</td>
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<td>Experience Lyon social event (register separately)</td>
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Tuesday 7th of June 2011
Preconference workshop I
Planning Blended and Online Learning for Adults: Motivation and Assessment

Cynthia Davis, Robert Scully, Barry University, Miami Shores, FL, cdavis@mail.barry.edu, profscully@bellsouth.net

Robert E. Scully is a Professor at Barry University and has a Doctor of Business Administration degree in Management and a Masters degree in Economics. He has over twenty-five years experience as a full-time faculty member teaching business and economics courses at both the undergraduate and graduate level. In addition, he has extensive business experience with various organizations and served as the Associate Director for the American Council on Education’s (ACE) Florida Affiliate Office; National Coordinator and Distance Learning Evaluator for the ACE Credit program; Consultant and Evaluator for the Distance Education and Training Council (DETC); and as a Florida Sterling Quality Award Examiner.

Cynthia Davis is a Professor at Barry University; she holds a PhD in Educational Policy & Planning from University of Maryland, and Master’s degrees in Literature and in Adult Education from Georgetown University and Boston University. Her areas of research include faculty training, adult learning theory, business communication and African-American and Caribbean Literatures. She has published extensively in academic journals, and is the co-author of Technical Writing for Engineers, and of three critical biographies of writers of the Harlem Renaissance.

The purposes of this 3-hour, participatory workshop are to share with EDiNEB colleagues current concepts in planning adult, online learning; and to link current research in Workplace Motivation, Adult Learning (Andragogy) and Assessment, with techniques and suggestions for the design and evaluation of robust online and blended education. Participants will learn ways in which to adapt workplace motivational strategies to the classroom, and ways in which to maximize their students’ prior and experiential learning as they guide students through online courses. Topics will include managing and motivating the multigenerational and multicultural online classroom, and designing assessment activities that accurately reflect course and program goals. Participants will complete self-assessment instruments designed by the presenters on Workplace Motivation Strategies in the Classroom and on Program Assessment. Finally, participants in this “train the trainer” workshop will obtain current, research-based best practices which can be shared with colleagues at their own schools and institutions.
Preconference workshop II
Creating a new undergraduate work-based paradigm
Chris Birch, University of Greenwich, C.J.Birch@greenwich.ac.uk

For the past ten years, Professor Chris Birch has worked at executive level in two universities, including Pro and Deputy Vice-Chancellor roles. His responsibility has included research, enterprise, employer engagement, income generation, regional development, estates and marketing. He has been integrally involved in significant change management programmes, borne out of both necessity and in recognition of the need to become more efficient and effective, in order that more self-generated resource can be used sustainably to support investment activity. He is committed to the principle of creating mutually value-adding partnerships, particularly when shared development of secondary functions lead to more resource being made available for the delivery of core business. He is clear that universities will now have to look very hard at all aspects of their work, and how they operate, as public funding becomes more constrained and contested and as the competitive global environment, underpinned by high speed and cheap communications infrastructure, increasingly challenges traditional university dominance in the provision of higher education services. Furthermore, the impact of forthcoming demographic change will have profound effects and impact on the fitness for purpose of current provider models, which are likely to necessitate systemic structural change. His experience of the governance and leadership of universities, their overall cultural composition and the fundamental issues relating to funding, quality and the student experience, alongside his political empathy and business knowledge, infer that he can realistically and credibly assess options in a sensitive but rounded way which will be critical to future success.

The workshop that Chris will be leading on will relate to many of the issues emanating from the forthcoming changes, and will be entitled "Creating a new undergraduate work-based paradigm". It will be participative in style, and hopefully those attending will bring specific perspectives based on their own experience and their countries of origin. Themes will include the (rising) costs, discussion of the benefits of a (formal) higher education, quality (what does it mean!?!), models of delivery (blended, work-based?), mode and pace of study (quick, quick, slow), the wider student experience, ageing undergraduates (??), the end of retirement (as we know it), wider assessment methods recording knowledge, skills, competencies, attitudes and mindsets. Finally, my pet theme of the moment – why on earth do we expect students to take ‘hand-written’ examinations! – are we intent on setting them up to fail? I don’t recall seeing ink-wells in examination halls recently! Many (younger!) readers may not know what they are!!!!! The point is that we may be locked in time, and if so, we had better find a way out – and fast!
Preconference workshop III
Megastorm

Mark Raison, Yellow ideas (http://www.yellowideas.com/)

In our line of work, we are often faced with 'the impossible'. Our creative skills are tasked on at least a weekly basis. During the Megastorm workshop bij Mark Raison and Martina Bayers from Yellow Ideas you will not only learn about new creative techniques, but experience them hands-on.

Why should you attend the Megastorm workshop?

- to challenge your approach of creativity - to discover the dynamic of the Power of Impossible
- to practice with new creativity techniques
- to fill in your creative pipelines with fresh and insightful ideas
- to share a rich creative experience with colleagues
- to benefit from Mark Raison’s 20 years experience of 'Yellow Ideas', the impossible ideas
- to have fun and be empowered by an incredible creative energy

Mark Raison, founder of YELLOW IDEAS is passionate about yellow ideas, these impossible ideas today that will make the difference tomorrow. As international speaker, consultant, facilitator and trainer specialized in creativity and innovation, he accompanies deciders and their teams in developing creative energy without which there can be no new ideas that can emerge. His approach places the accent on the relation between creativity and enthusiasm, innovation and audacity, success and creative collaboration.

His global and multicultural approach on creativity allows him to provide concrete, up-to-date and precise responses to the needs companies and organizations have today. He runs seminars and conferences in French, English, Dutch and Spanish on all five continents.

He also shares his passion for creativity with students at EDHEC, in Lille, and at the BRUSSELS BUSINESS SCHOOL ICHEC, in Brussels, as well as with directors of small and medium sized companies who participate in the PME PLUS program. Each week, he writes an article in English on Creativity and Innovation Management on this website in News section and on his blog www.creativityonfriday.com. Each day, he publishes an article in French on creativity and about his passions on his blog www.markraison.com. Since 2003, he has headed the Academy of Peppers, running conferences and tastings of rare peppers, called “On the pepper route!”.
Wednesday 8\textsuperscript{th} of June 2011
Keynote Address Elspeth Jones

Elspeth Jones is Professor of the Internationalisation of Higher Education and International Dean at Leeds Metropolitan University, where she has been responsible for leading internationalisation across the University since 2003. With a background in applied linguistics and TEFL, Elspeth has over 25 years’ experience of international education. She worked for the British Council in Japan and Singapore for seven years and was an exchange student in Germany. Her publications include the edited collection, Internationalisation and the Student Voice (Routledge 2010) and Internationalising Higher Education (edited with Sally Brown) (Routledge 2007). She has published widely on issues in comprehensive internationalisation and has delivered keynote speeches around the world. Elspeth is a member of the Editorial Advisory Board of the Journal of Studies in International Education and Visiting Professor at the University of Zagreb.

In her role as International Dean, Elspeth wrote the internationalisation strategy for Leeds Metropolitan University and it has been her job to lead its implementation, with responsibility for the recruitment of international students, for curriculum internationalisation and staff development for internationalisation as well as the university’s international partnerships. To support the internationalisation strategy, Elspeth initiated Leeds Metropolitan’s International Reflections webpage in September 2003 and edited it daily until June 2009. Elspeth is also responsible for introducing International Volunteering at Leeds Metropolitan to offer international and intercultural experiences for domestic and international students as well as staff. This continues to be her principal field of research interest, along with the link between internationalisation and multiculturalism. In 2009 she founded CAPRI, the Centre for Academic Practice and Research in Internationalisation, at Leeds Metropolitan University and is its Co-Director with Dr Viv Caruana.
Enterprise Education Curriculum Design – lessons from sustainable development pedagogic innovations

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Abstract: The concepts of ‘enterprise’ and ‘sustainability’ as academic subjects are sometimes contested. Manchester Enterprise Centre (MEC) teaches enterprise and sustainability units to students from across the University of Manchester, combining and adapting pedagogic models from both fields and exploring the synergies. MEC aims to create a more holistic business enterprise curriculum, encompassing the dimensions of the “I” (personal aspects), “We” (collective aspects) and “It” (theory) to enhance student experience whilst improving educational effectiveness. Through a pilot study at Manchester Business School (MBS), MEC is focusing on curriculum design for transformational education and investigating how, through employing innovative student-centred methods and engaging in knowledge-transfer from pedagogic developments in related fields, business education can achieve higher ideals in university education whilst producing employable graduates better equipped to make a difference. Initial results suggest that whilst students appreciate the diverse aspects of the enterprise curricula, some are less contented with the underpinning groupwork.

Introduction
Developing sustainability literacy in students across Higher Education has been a significant focus in recent years, driving towards transformative education, experiential learning that is student-centred and which fully embraces active learning. This contrasts with more traditional didactic teaching approaches that are the mainstay of undergraduate and post-graduate taught programmes.

Enterprise education has much in common with sustainable-development teaching. Both require a strong appreciation of the external environment, aim to inspire action and develop students capable of ‘making a difference’ in the world. The aim is for education to be transformational, with the student engaged much more personally in the content than is required in less vocational, more abstract subjects. In this paper, it is argued that, just as in education for sustainable development (ESD), confidence, skills and motivation are as important as theory in education for enterprise and business (EEB).

Sustainable Development Education is a relatively recent innovation and has undergone considerable change over the last ten years. Sustainability itself is a contested subject and education has evolved from communicating simple factual information about environmental problems to the identification in 2009 by UNESCO of a set of learning outcomes consisting of fourteen personal competencies to be developed in students (Waals, A: 2009). Many of these sustainability competencies have immediate parallels in the field of enterprise, which is an equally ambiguous and contested discipline and has also gone through a significant transformation over the same period. Some twenty years ago, Sally Caird (1990) attempted to clarify the term ‘enterprise competency’ and highlighted unresolved questions. Shortly afterwards, Alan Gibb (1993) formulated a model of the “Enterprising behaviours, Skills and Attributes” required to be developed in students through their education. Although a set of universally accepted comprehensive competencies is apparently yet to be achieved for business enterprise, there appear to be strong parallels with the UNESCO learning outcomes. Developing and evaluating competencies requires the crafting of situations where knowledge and understanding can be tested in appropriate settings.

Theoretical approach to Curriculum Design for EEB
Sustainability champions divided the Higher Education (HE) student experience into three areas: curriculum, campus and community. From a business perspective, this translates to curriculum (taught courses with specific learning-outcomes), campus (student societies and non credit-bearing activities such as voluntary enterprise projects) and community (engagement with the business community, e.g. local companies and innovation parks). This study focuses on the curriculum component, but it should be noted
that integration of curriculum with campus and community is encouraged, rather that treating these as fragmented parts of the student experience.

Jopie Coetzee (2011) views a social contract with business as the foundation for future development and suggests a radical rethink of the MBA that embraces ‘a new world order reflecting the re-balancing of global economic and political power as well as the emergence of an holistic society’. In a session on “Transformative Education” at the 2010 Conference “Engineering Education for Sustainable Development”, Arjen Waals (Waals: 2010) described a model for categorising ESD teaching into three areas: the I (personal aspects), the We (collective aspects), and the It (theoretical tools and approaches). MEC have adapted this model (in Figure 1.) for EEB, to classify the key components of a business enterprise programme.

![Figure 1. Components of a Business Enterprise Curriculum](image)

The pilot investigation is examining to what extent these three overlapping areas are currently included in the MBS “Innovation Management and Entrepreneurship” Programme, and surveying key stakeholders to determine attitudes to the curriculum.

Which of the “I”, the “We” and the “It” is given priority depends on whether a programme focuses on education about business and enterprise, or education for business and enterprise. Should the main aim of University business education be to develop academic researchers specialised in the field, capable of generating meaningful knowledge? Alternatively, is training the next generation of skilled, confident entrepreneurs and business-people more able to stimulate innovation, which in-turn supports growth in the economy, a higher priority (Moreland: 2006)? Is the purpose of University level education to develop people capable of conducting systematic research, be meaningful actors in the innovation economy, or both? This conundrum was posed to the 2004 EDInEB Conference in Maastricht (Engel et al: 2004) and elucidated in the context of global social responsibility and the results of the work started there have since been widely reported, (e.g. Tomkinson: 2011). MEC is attempting to deliver a wider range of learning outcomes than the traditional set of theory and analysis tools, requiring innovative pedagogic methods and assessments.

**Preliminary Data – Case Studies**

This paper examines three recently developed course-units; 15 credit electives on the MBS MSc Programme in “Innovation Management and Entrepreneurship” (IME): Iterative Problem Based Learning: “Skills for Sustainability and Social Responsibility”; Collaborative Industry Projects – “New Entrepreneurial Ventures”; Inspiration and Personal Development Planning – “Developing Enterprising Individuals”. Table
I summarise these to demonstrate how each addresses the three components. These complement core units that tackle more theoretical business enterprise subjects such as ‘Innovation Management’, ‘Innovation and the Knowledge Economy’, and ‘Financial Appraisal and Investment Economics’.

4.1 ‘Skills for Sustainability and Social Responsibility’: Taught through PBL; teams tackle a series of short ‘live’ projects, and iteratively, their experience and external formative comments from each project feed forward into improvement in addressing the next. Students learn an approach to tackling complex problems holistically, collaboratively and rigorously rather than aiming to memorise the content of each project. Assessment is by team project reports, presentation, individual reflective journal and peer assessment.

4.2 ‘New Entrepreneurial Ventures’: Student teams engage with regional small businesses at a science innovation park to immerse each group in one project in significant depth, the outcome being critical to the firm’s success. Students apply theory learned during their programme and learn from interactions with clients in the business community. Assessment is by team report and presentation.

4.3 ‘Developing Enterprising Individuals’: Students are inspired and motivated by studying enterprising individuals and the role they play in society. Competencies, behaviours and traits that characterise such individuals are explored. The ultimate aim is to enable students to benchmark their own strengths and weaknesses and develop a personal development plan. Assessment is by an individual research report and personal reflective journal.

Table 1: Review of Key Course unit Learning Outcomes

<table>
<thead>
<tr>
<th>KEY LEARNING OUTCOMES</th>
<th>Skills for Sustainability and Social Responsibility</th>
<th>New Entrepreneurial Ventures</th>
<th>Developing Enterprising Individuals</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>• Three Pillars Model of Sustainable Development</td>
<td>• Evaluating Products, Processes and Services</td>
<td>• Different approaches to learning; barriers and drivers</td>
</tr>
<tr>
<td></td>
<td>• Change Management Pathways</td>
<td>• Assessing Commercial Feasibility</td>
<td>• Enterprising behaviours and competencies and resulting value creation</td>
</tr>
<tr>
<td></td>
<td>• Stakeholder Engagement</td>
<td>• Understanding the commercial environment</td>
<td>• Utilising networks</td>
</tr>
<tr>
<td>Collective / Global Aspects (We)</td>
<td>• Cultural and Societal Diversity</td>
<td>• External factors and influences, including a strong focus on customer ‘needs’ &amp; insight.</td>
<td></td>
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<tr>
<td></td>
<td>• Global Citizenship</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Personal Skills and Behaviours (I)</td>
<td>• Collaborative Teamwork</td>
<td>• Collaborative Teamwork</td>
<td>• Information Literacy</td>
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<td>• Information Literacy</td>
<td>• Information Literacy</td>
<td>• Communication</td>
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<td>• Communication</td>
<td>• Communication</td>
<td>• Project Management</td>
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<td>• Decision Making</td>
<td>• Decision Making</td>
<td>• Reflective Practice</td>
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<td>• Problem Solving</td>
<td>• Problem Solving</td>
<td>• Self-directed Learning</td>
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<td></td>
<td>• Reflective Practice</td>
<td>• Reflective Practice</td>
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<tr>
<td></td>
<td>• Self-directed Learning</td>
<td>• Self-directed Learning</td>
<td></td>
</tr>
</tbody>
</table>

‘Collective and global’ appears the most commonly neglected of the aspects. All units deliver distinctly different theory (content), but there is much overlap in the ‘skills’ category. In a 2011 presentation by Carl Gilleard, (Gilleard, C: 2011) Chief Executive, Association of Graduate Recruiters (AGR) the results of a survey of skills that 21st Century employers want in graduates were as follows: “teamwork, self-management, project-management, business and customer awareness, problem solving, communication, cultural sensitivity/awareness, managing learning and career”. These employability skills map closely to lists of desirable graduate business skills and sustainability skills. The four personal attributes indentified by AGR were “self awareness, self esteem, self confidence and self efficacy”. Many of the skills and attributes
desirable in enterprise and business graduates are allegedly skills required by all graduates for enhanced employability.

**Preliminary Data – Student Questionnaire Results**

At the time of writing, data collection is ongoing, (this is an early-stage study), but a paper questionnaire with nine main questions was distributed to approximately 65 of the 80 students in the IME 2010/11 cohort near the end of their second Semester, with 40 responses. Questions concerned students’ experiences on the programme related to four components of the curriculum: “ACADEMIC THEORY (of business and management); ACADEMIC SKILLS (academic writing, information literacy, research methods); PERSONAL PROFESSIONAL SKILLS (problem solving, creativity, persuasiveness, planning, negotiating, decision making, communication, collaborative working); GLOBAL AWARENESS (international diversity, global citizenship, environmental and social responsibility, values and ethics, cultural sensitivity)”. Students were also asked about teaching and learning methods and how well they believed they personally had performed in each area. These cannot be analysed fully in this short working paper, but will be presented in more detail in future.

When asked how relevant each category was to their learning on a five point (Likert) qualitative scale, Figure 2 shows that students ranked skills and global awareness as more relevant than academic business theory. Figure 3 shows perceptions of students’ own development. ‘Professional skills’ was the area in which students felt they had the most experience before starting the programme, and also the category on which 80% would have preferred to spend more time and effort during the programme, compared with 70% who desired increased global awareness education, and 30% who would have preferred more time learning theory. The cohort appear satisfied overall: 80% responded “good” or “excellent” when asked if the programme was coherent with current thinking, and 68% ticked “good” or “excellent” when rating the programme as preparation for their future career.

**Figure 2.** “In your opinion, how relevant is each of these learning objectives to your current degree programme?”
When asked about pedagogic methods, the majority of students wanted more time in one-to-one meetings with members of staff, engaging with external companies and undertaking individual activities. 26% wanted less groupwork, and 18% wanted less time in lectures. 44% students perceived that more than 60% of their study time is employed in groupwork. Quantity of groupwork depends on students’ elective choices, but comparing the choices of students performing highly and poorly in Semester 1, groupwork-based units appealed to both sets equally. ‘Developing Enterprising Individuals’ appealed more to weaker students, as did a lecture based unit ‘Service Innovation’. Stronger students showed particular preference for two lecture based electives ‘Case Studies in Technology Strategy and Innovation Management’ and ‘Innovation and Market Strategy’.

Conclusions

The course units examined use integrated pedagogic approaches, which combine skills development with academic theory. Analysis of these course units shows that there is overlap in the skills being developed by them, and these are closely aligned to employability and sustainability skills agendas. All course units apparently include some theory, but many neglect the collective aspects, putting theory into a global context.

For transformational education, creating innovative and confident lifelong learners capable of making a difference in the real world, theory suggests all three components must be included, whether for sustainability or for enterprise, and students agree that all these aspects are relevant to their education. Once learning outcomes are identified, the pedagogic approach most appropriate for each must be considered. This includes evaluating the weighting to be given to each aspect, given the programme aims and student characteristics and aspirations; issues of valid and reliable assessment; and how bolt-on components can become integrated and embedded parts of a programme.

The survey results provide some evidence that the requirement for global awareness and professional skills suggested by the academic literature is in accordance with the views of one cohort of postgraduate students. Whilst professional skills are clearly desirable to both employers and students, the educational method of group-working currently employed to develop these skills is less popular with some students. Future work includes extending this pilot investigation to include other programmes, other institutions, and to gather more longitudinal data about graduate destinations and outcomes.
References
A positive experience in project management training in school management: a contribution to a better control of stress

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Abstract: Learning about project management is often limited to planning skills. In fact, project management encompasses almost all areas of management and involves cross-cutting skills to the company. Therefore, extensive training in project management is usually dedicated to graduate students or executives who have experience of the company. In our business school, we followed the guidelines of team-building and of PMBOK to develop teaching and organization that provide adequate training for undergraduates, and experienced managers. In addition, as more or less discussed in the literature, we found that the individual students stress is significantly shifted towards a collective stress which is easier to understand. To achieve this goal and contribute to this finding, we established a systemic and specific training in project management from our 500 to 600 first year students at Grenoble Ecole de Management, while most of them have never set foot in a business or have never put their theoretical knowledge into practice.

Is Project Management a must?

One element that made the success of project management is the ability of project managers to achieve a very satisfactory result, typically a benefit or success, by leading specialists from different disciplines, by meeting regularly together and getting them to work and communicate on a common operational place. The benefit or success of the project can be financial, reputation or just for fun. To avoid a repetition of existing or known, the project requires a minimum of risk-taking by those involved.

As risks generate stress that can lead to loss of benefit, we should make stakeholders confident by mastering the situations faced with the help of an organization also integrating the human cohesion. It is therefore requested for project managers to succeed on 2 fronts: the benefit and the cohesion, although it is often said that cohesion is at the service of profit. This latter position is often badly perceived: the people involved understand that they are manipulated in favor of a narrow circle in which they are often excluded. We therefore advocate the view that a good project management must find a true balance between the two paradoxical notions that are benefit and cohesion while avoiding any sense of manipulation. Benefit and cohesion then return in a virtuous circle in which all stakeholders are winners.

Stress is usually supported only on an individual basis. We want to show that the methods of organizing to promote cohesion, moves the stress level in the collective sharing among those involved. The stress is then made more bearable and easier to manage. The positive perception that emerges does support the benefit. We enter the virtuous cycle mentioned above. The requirements go through the development of self-confidence and of confidence to others involved to work together (Sutterfield et al., 2007). This confidence is based on the ability to meet commitments which others are depending on. To get there, we should:

1. make only commitments that we can keep building on our skills and availability
2. have a set of means of communication so that everyone can follow all of these commitments.

Controlling the cohesion comes from a set of consistent even systemic methods, first initialized and then maintained over time. This control is already proven in the field of Grenoble Ecole de Management.

Training of Project Management at Grenoble Ecole de Management

Rationale

In 1994, Robert Volsy joined Grenoble Ecole de Management. As was practiced in most schools and universities, he has taught project management for 3rd year students based on their theoretical knowledge in other subjects and their first experiences as interns in industry. But after some time, students asked: "Why do not you offer training in the first year to all students (over 500 per cohort after 2000) to help us at least in two areas: the ability to work effectively as a team and the ability to apply knowledge transversally?"
Bring people novices to understand or control the management project that affects all business activities seems impossible. And in general, training and certification are offered to executives who have rather some years of project experience. That is rather a recognition or consecration of the skills acquired in project management. In fact, it is a denial of pedagogical capabilities. There was therefore a challenge. Grenoble Ecole de Management was not the only one to dare, because since 2005 a "first-certification" of the Project Management Institute or CAPM appeared. It is for those who have no or little experience in project management such as students or staff retraining.

**Problem of the number**

If the size of a classroom of 10 to 40 students allows project teams of 4 to 12 students bringing a teacher to follow a few projects, the situation becomes problematic with more than 500 students. It is common practice to do the same thing to all students in a given cohort. But even if the same project declined N times by several teams simplifies the task of organization within the school, it does not achieve the objective of ensuring learning by students because:

1. copies of expectations or corrected models circulating among students who learn nothing more
2. too short studying time, so often superficial and lack of progression over time
3. too artificial: the deliverable is limited to a file without real consideration of the expectations and constraints of stakeholders.

To cope with more real life we have to add:

1. the problem of many projects at once all different and yet comparable in terms of acquisition and tracking education
2. the duration to be able to take advantage of advances in the deliverables and team operations.

To implement real projects different from each other and drawing on the experience of other schools, Grenoble Ecole de Management has chosen to group students in teams of 10. By the way, we had to find 50 projects equivalent for our 500 students. Nevertheless Robert and Sophie Volsy Buer, who joined in 2003, have taken up the challenge with:

1. a network of stakeholders
2. projects for a period up to 6 months beyond the usual quarterly period in academia
3. associations of school students who would become the 50 clients or sponsors, often coupled with one or more other sponsors.

Indeed, associations of school students represent more than 120 second year students organized into association offices. They attend a specific "professionalizing teaching course." They offer the 50 projects within the similar constraints of performance requirements, of feasibility in relation to academic planning, of workload and concern for all stakeholders.

**Expectations from project teams**

The project approach will be to ask the project team: organize among members to work well together to record, to report human problems encountered, to present HR balances qualitative but also quantitative through evaluating them in much the same manner described by Brutus and Donia (2010); in fact "project methodology " is successful if (SFEZ, 1992):

a) Clear objectives and expectations
b) Team united
c) Team non-pyramidal
d) Role and mission of the Project Manager
e) Roles and missions of the team members
f) Recognition of the contributions of individuals to the team by the team itself
   1) reframe the issue in terms of objectives, operational feasibility and impact
   2) define accurately the needs their deliverables have to meet, validate them with the client
   3) plan for getting deliverables then monitor and possibly react according to the embodiment
   4) develop solutions for project risk
   5) monitor the budget and time spent for their acquired experience of project reality
   6) report through project reviews
g) before the main sponsors to show progress towards the expected deliverables
h) before the faculty to show the application of methods and tools.
From individual stress to collective stress
The elitist French education leaves traces in the heavy mood of the students who are too formatted to the idea that it is inconceivable to make a mistake. It is not easy to force them into a process of:

1. learning by trial and error-correction-iterations
2. accepting conflict and conflict management (Sutterfield et al., 2007)

At first, the students say “everything goes well in the team”, refusing to go in depth. The set-up of two measures, the individual times and the evaluation peer to peer, have helped raise awareness of nuances to bring to the initial idyllic version the students wanted to see. Stress at work is currently considered the primary source of workplace absenteeism or worsened the company’s image. Stress is increased in project management by the obligation of results (interim and final deliverables) in a field more uncertain than usual. If the whole team is integral in both good and bad results of progress of the project, the individual stress does move to a collective stress of the entire project team. This solidarity is effective when each team member:

1. adheres to a clear understanding of the rationale and challenges of the project within the organization that owns the team members
2. has confidence in its ability to hold or cause to keep commitments to the project
3. has confidence in the abilities of other team members to hold or cause to keep their commitments to the project
4. clearly perceive the project’s progress and achievement of deliverables.

The PMBOK has understood this by emphasizing the initialization phase of the project. In addition, as recommended by Blake et al. (1987). The team building is developed through constructive responses to the following questions:

1. Are employees valued by giving them access to highly confidential information, recognizing their efforts and contributions?
2. How the project is it consistent with the business or does it contribute to its development or its sustainability? What are the implications of the project ROI, awareness, citizenship, etc.
3. What are the different stakeholders to be favorable or unfavorable to the project? What are the competitors or opponents, what are the strengths and weaknesses?
4. What has been done in the project area?
5. What are the elements of attractiveness or "passion" of the project?
6. How do we balance an organization that is both rigorous and flexible?
7. What are the constraints, risks, impacts and remedies or opportunities?
8. Is it accepted to take risks, to delegate?

A contribution to the reduction of stress at Grenoble Ecole de Management
Several steps need to be undertaken jointly to achieve a real reduction of stress.

Ground rules
To be capable of creative production, to avoid too many omissions, the team must work occasionally in common using meeting rules and brainstorming. The contributions are effective if team members meet three conditions:

1. be at least 4 members
2. have different skills and / or different cultures to foster openness and creativity
3. establish a charter of commitments of behavior or Ground Rules.

Participants in training are a priori the same level and have the same aspirations. So, it is hard to have a dominant leader having a position like hierarchical. This can be a source of hindrance or conflict that we have to understand and adjust, again the ground rules can help.
Ground rules illustration

1. I am in time or I pay a 0.20€ penalty per minute delayed ............... WELL
2. I switch off my mobile phone when we meet ....................... WHAT ELSE?
3. I hold my own commitments or else I warn the others before it’s too late HOW, CHECK?
4. I distribute my achieved work to the others HOW, CHECK?

The 2 types of roles in the project team

1. Operational role or individual participation to the project
2. Functional roles by the project manager and /or delegates: Monitoring to facilitate relationships within the team and towards third parties:
   a. Overall animation
   b. Human relations
   c. Communication & distribution of information
   d. Time management and budget
   e. Relationships with other stakeholders.

Operational roles are simply characterized by the tasks that each team member takes on its responsibility, in line with its skills and availability. Functional roles are intended to improve the functioning of the team to meet the two ultimate goals: benefit and cohesion. In fact, different functional roles have many points of overlap, which requires a continuous and overall exchange between the team members to avoid duplications or omissions.

Time measurement planned and implemented

Four elements are particularly followed:

1. The expected duration of a task where students have difficulties:
   a. lack of experience
   b. lack of recognition of ineffective time (like waiting for a caller on the phone or at the home of an entity)
   c. confusion between implementation period and actual time (or paid time)
2. The imbalance of workload among students due to:
   a. the temptation of some to rely on others (loafing behavior to correlate with the ground rules)
   b. a lack of pro-activity: forgetting to put oneself at the disposal of others
   c. a lack of control HR
   d. often a lack of delegation from the project manager who wants to go legitimate by doing more than others.
3. Stops due to a lack of progress or achievements of predecessors or interim deliverables. It is not obvious to use simultaneous engineering or fast-tracking.
4. The total used time vs the expected.

Evaluation peer to peer

The evaluation’s main goal is an accurate analysis of HR relations and then remedies for improving individual and collective performance. We have an assessment called lateral or “peer to peer” (Brutus & Donia, 2010) where teammates are evaluated each other. This assessment should focus on the actions, compliance and /or responsiveness to challenges and not on the feelings we may have about individuals. To avoid difficult situations, Brutus and Donia (2010) have applied a system of anonymous evaluations from his students who must provide a written explanation of the quantification. At Grenoble School of Management, we opted for quantitative assessment periodically repeated 4 times on the sole criterion for keeping the commitments of each. The corresponding table is commented to all students by the HR manager(s) in the project review with the teacher. A correlation is made with the qualitative perception of the operating way of the team. The stated goal for students is to see a takeover of the situation if there is a degradation of assessments. The assessment peer to peer is anonymous or not, it appears the benefits and drawbacks described in Table 1.
<table>
<thead>
<tr>
<th>Anonymous assessment</th>
<th>Advantage</th>
<th>Disadvantage</th>
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<tbody>
<tr>
<td></td>
<td>freedom of expression</td>
<td>reckoning</td>
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<td></td>
<td>Wider deviations</td>
<td>exaggerated deviations</td>
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<td></td>
<td>no peer pressure</td>
<td>no exchange to better understand</td>
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<td></td>
<td>no risk of retaliation</td>
<td>easy to ignore or override other</td>
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<td></td>
<td>no need to justify his choice</td>
<td>no need to step back</td>
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<td></td>
<td>no responsibility for consequences</td>
<td></td>
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<tr>
<td>Open assessment made by all students</td>
<td>need to analyze and understand</td>
<td>less spontaneous expression</td>
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<td></td>
<td>Reasonable deviations</td>
<td>Not enough significant deviations</td>
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<td></td>
<td>trade with attention to other</td>
<td>peer pressure</td>
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<td>opening to the difficulties of other</td>
<td>risks of retaliation</td>
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<td></td>
<td>consideration of other</td>
<td>forced solidarity</td>
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<tr>
<th>Table 3. Conditions of &quot;proper balance&quot; or &quot;leader coopted&quot;</th>
<th>Assessed teammate</th>
<th>Assessor 1</th>
<th>Assessor i</th>
<th>Assessor n</th>
<th>Mean value</th>
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<tr>
<td>Alan</td>
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<td>14</td>
<td>15</td>
<td>14.5</td>
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<tr>
<td>Antony</td>
<td>19</td>
<td>18</td>
<td>19</td>
<td>18.8</td>
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<tr>
<td>...</td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Aurelie</td>
<td>16</td>
<td>14</td>
<td>15</td>
<td>14.7</td>
<td></td>
</tr>
</tbody>
</table>

One student or sometimes two have an assessment about 10 to 20% higher than the other. Generally the team is functioning properly and progressing very well, but recognizes or co-opt a "locomotive", a leader, without whom the results might not be as good or as brilliant. When the leader has an adult behavior and rewarding the team members, usually the following conditions are met:

Each team comprising 10 students is involved in 4 project reviews on which it makes an assessment. At each project review, each student self-evaluates its contribution and assesses the contribution of each of the other team members from 0 to 20 with compulsory minimum standard deviation of 1 or 1.5. The teacher comments the ratings chart, shows the differences and asks the HR manager to react, to link the various elements that may have occurred, whether negative, such as gaps in the commitments whatsoever in relation to the ground rules or to the actions foreseen to conduct, but also positive such as remarkable contributions, resolutions of conflicts, etc. The teacher asks the team to develop ways to improve and / or strengthening, using listening, dialogue face-to-head, the redistribution of roles and tasks, etc... The following are examples of different scenarios. The consideration of these situations can raise more perspective to the team on its actual operating mode, to accept the failure of performance, this, all the better it responds to remedy it and see improvements.
1. Meeting start promoting friendly exchanges and knowledge of each other, and taking into account constraints and availability of each other (example: timetables related to family problems, residence, etc.).

2. Setting up a recurring meeting to a systematic time available for all team members

3. Organization of all meetings with method: specific agenda, convenor, secretary and keeper of the time, including appointments or interviews with other stakeholders as the only members of the team.

4. Meeting ended with the approval and distribution of the minutes of the meeting recalling the activities and achievements to carry out for the next time in WWWWH (what, who, where, when, how).

5. Facilitator of both democratic and firmly benefit/cohesion oriented. He must:
   a. recall the issues (agenda)
   b. make speak all the team members
   c. not express himself on the topics without to be replaced at the role of facilitator (to avoid the "absolute" power of the "guru" imposing both his views and rules of operation!)
   d. reframe the speakers on the issues, stop asides
   e. restate or rephrase by the secretary
   f. make justify contradictory positions to reach a common position
   g. only resort to a vote if it mitigates the positions of winners and losers for strengthening the cohesion; for instance make the team find a "compensation" for losers
   h. make recall the timing by the timekeeper
   i. close the meeting as required by deferring items not addressed at another meeting if necessary
   j. require the agreement of all about the minutes of the meeting and then make them distribute at once by the Secretary or the Head of Communications

6. Balance between relaxation and professional times during or around the meeting to achieve the expected results to the agenda

7. make personal talks with the HR manager, especially on the workload and the ability to cope

8. Revise ground rules and roles to better match the actual behaviors and skills within the team.

<table>
<thead>
<tr>
<th>Table 4. Assessment &quot;teammate rejected&quot; 1st review</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assessed teammate</td>
</tr>
<tr>
<td>Alan</td>
</tr>
<tr>
<td>Alice</td>
</tr>
<tr>
<td>Anne</td>
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<tr>
<td>Antony</td>
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<tr>
<td>...</td>
</tr>
<tr>
<td>Aurelie</td>
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<tr>
<td></td>
</tr>
</tbody>
</table>

Tables 4 to 7 and diagram 8 show a trend due to a problem with a teammate and then the correction given. One student, Alan, is noted about 15 to 20% lower than all the others at the first evaluation. He gave a perception of withdrawal from the project team and to all other teammates. The HR teammate will make an appointment with him to find what's wrong.

<table>
<thead>
<tr>
<th>Table 5. Assessment &quot;teammate rejected&quot; 2nd review</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assessed teammate</td>
</tr>
<tr>
<td>Alan</td>
</tr>
<tr>
<td>Alice</td>
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<tr>
<td>Anne</td>
</tr>
<tr>
<td>Antony</td>
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<tr>
<td>...</td>
</tr>
<tr>
<td>Aurelie</td>
</tr>
</tbody>
</table>
The situation has deteriorated. Student Alain is uncommunicative and not present in meetings, in particular, he is absent from the project review and the appointment with the HR manager could not take place. The HR teammate decides to do the forcing to cope with the uncooperative student.

### Table 6. Assessment "teammate rejected" 3rd review

<table>
<thead>
<tr>
<th>Assessed teammate</th>
<th>Review 1 mean</th>
<th>Review 2 mean</th>
<th>Review 3 mean</th>
<th>Review 4 mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alan</td>
<td>14.6</td>
<td>11.5</td>
<td>6.7</td>
<td></td>
</tr>
<tr>
<td>Alice</td>
<td>17.1</td>
<td>16.8</td>
<td>16.9</td>
<td></td>
</tr>
<tr>
<td>Anne</td>
<td>16.8</td>
<td>16.7</td>
<td>16.1</td>
<td></td>
</tr>
<tr>
<td>Antony</td>
<td>17.3</td>
<td>17.4</td>
<td>16.8</td>
<td></td>
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<tr>
<td>...</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aurelie</td>
<td>16.7</td>
<td>17.1</td>
<td>16.7</td>
<td></td>
</tr>
<tr>
<td></td>
<td>16.3</td>
<td>15.9</td>
<td>14.4</td>
<td></td>
</tr>
</tbody>
</table>

The situation is black in terms of cohesion! The student is virtually absent from the project and does not respond to messages that are left by the team. The project manager and the HR teammate ask their teacher if they can get rid of this team! What would be a failure at several levels? The teacher, a kind of hierarchical N +1, is calling the student in his office after checking his academic record: no negative comments from other teachers, on the contrary, the record is good. The student is stunned by the assessments that gave his teammates, he felt them more "cool"! Then he explained: "I had personal problems and I could not get open to anyone without losing face, especially not in front of a student, my mother made several suicide attempts and I had to return several times to home, I did not head in the project. ... I have alerted several members of my family and my mother is now better surrounded, I could get back to the project." It is then suggested to him to reveal only part of the situation to the team, saying that his mother was seriously ill without elaborating. The thing seems to relieve him and he agreed to the approach, which reinforces the idea that he should be sincere. The teacher immediately sent an email to the project manager and HR teammate, with a copy to the offending student. He undertook to explain and to reinstate the team that will confirm or not the quality of this second chance.

### Table 7. Assessment "teammate rejected" 4th review

<table>
<thead>
<tr>
<th>Assessed teammate</th>
<th>Review 1 mean</th>
<th>Review 2 mean</th>
<th>Review 3 mean</th>
<th>Review 4 mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alan</td>
<td>14.6</td>
<td>11.5</td>
<td>6.7</td>
<td>14.9</td>
</tr>
<tr>
<td>Alice</td>
<td>17.1</td>
<td>16.8</td>
<td>16.9</td>
<td>17.3</td>
</tr>
<tr>
<td>Anne</td>
<td>16.8</td>
<td>16.7</td>
<td>16.1</td>
<td>16.9</td>
</tr>
<tr>
<td>Antony</td>
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<td>16.8</td>
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<tr>
<td>...</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aurelie</td>
<td>16.7</td>
<td>17.1</td>
<td>16.7</td>
<td>17.2</td>
</tr>
<tr>
<td></td>
<td>16.3</td>
<td>15.9</td>
<td>14.4</td>
<td>16.8</td>
</tr>
</tbody>
</table>

Student dismissed grabbed the pole and was fairly redeemed in the eyes of his teammates. Before the project review, the teacher had confirmation that he made efforts in every way to be accepted again by his teammates.

**Diagram 8 showing the recovery**

The “V-curve” of the diagram shows the reactivity of the team and the progress in return. The spectacular progress of Alan offers also a progress for the full team: we have a real win-win situation.
Conclusion
A set of tools allows to get simultaneously benefit and cohesion in the project. This requires the acceptance of others, through efforts on meeting commitments and therefore the perception (and communication) that others have on these effective efforts. This generates a mutual trust that allows entering in a virtuous circle leading to real solidarity and sharing face of difficulties. Accordingly, the ultimate success is safer. In summary, some key points:

- Frame his behavior to account for the other: ground rules
- Manage all difficulties to succeed: functional roles
- Be careful and responsive in the task progress and the sharing of results: project communication tools
- Understanding the perception of the other side: evaluation peer to peer.

Like Brutus and Donia (2010), the global organization established at Grenoble Ecole de Management, in fact systemic, can generate a cognitive process through:

- Better acquisition of knowledge in project management and team
- Reinforcement of individual self-confidence
- A climate of trust within the team
- Effectiveness of collective labor
- A reduction of stress.

These applied courses have generated very positive feedback from our students and business leaders who employ them. Business leaders have confirmed that students or professionals issued from our school and in charge of project achieve results in an efficient and appreciated way. Graduates feel that the course of project management is one of the most significant they attended. To reinforce our approach, we are looking for more exchanges on similar practices and on other measures about student effectiveness. And why not extend this development to some other entities.

References


How computer-based games ignites reflective learning

Sergio Vasquez Bronfman, ESCP Europe Business School, vasquez@escpeurope.eu

In recent years computer-based games (CBG) have become an extremely fast growing sector. During the last decade, many experiments were made with CBG in education and their number is growing from year to year. There are essentially two types of experiences with CBG in education:
- Exploit existing games to highlight some fundamental mechanisms;
- Develop games specifically for educational purposes (also called “serious games”).

For instance, in the first case, a social simulation game like The Sims allows gamers to understand political and economic principles and, especially, the complexity of these mechanisms. Spore, a simulation game in the field of Biology is a very good tool for the understanding of some aspects of natural selection. An example of the second case is Supercharged, a simulation game whose purpose is the handling of the trajectory of a spacecraft (which is in fact a "particle") managed by manipulating electrical charges.

Concerning CBG and education, our particular inquiry is the link between games and reflective learning. If one observes a child playing a videogame in a Nintendo console, or an adult playing a game on a computer, one can notice that a main characteristic of the game is that it systematically poses new breakdowns that force the gamer to react quickly to the new challenge. On the other hand, Donald Schon says that reflection starts always with a “surprise”. As a consequence, we can make the hypothesis that computer-based games ignite reflective learning.

In Schon interpretation there are two types of reflection: reflection-on-action and reflection-in-action. The former is when after a breakdown one stops and think, for instance when we think at why this management meeting went so bad or why the results of this advertising campaign exceeded our expectations. The latter is when one faces a breakdown and, mainly because the situation doesn’t allow for stop and think, one make on the spot experiments until a solution is found. If reflection-on-action is being experienced for many years, the possibility to create educational situations that allow for reflection-in-action is still an educational challenge.

In this paper we will describe some experiences of computer-based games that ignite reflective learning with a focus on a computer-based simulation for the learning of general management skills that has been implemented in a European business school.

References
Gee, James Paul (2007), What videogames have to teach us about learning and literacy, Palgrave McMillan.
Exploring the Implications of IT-business Fusion for Business Education in the Digital Era

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Email: kao@uwindsor.ca, tmao@uwindsor.ca

Abstract: This paper describes the challenges faced by business education in the digital era when information technology and business are fused. It points out that the dynamic, complex and unpredictable new digital domain for business competition is difficult to understand by practitioners, and has not been theorized or modeled by academics. Questions concerning how business schools can prepare their graduates to compete in this environment with the right set of skills, knowledge and attitudes are posed in the paper. The paper concludes with a systematic approach that assesses the readiness of business curricula to prepare students for the challenges in the digital era.

Introduction
A fundamental objective of business education is to prepare business students to be competitive in the global market (Van de Ven, 1989; Knight & Yorke, 2003; Davis, Proe & Boxx, 2006). To achieve this goal, researchers agreed that business education and curricula development should be aligned with the changes in the environment (Friga, Bettis & Sullivan, 2003; Bennis & O’Tool, 2005; Kao & Mao, 2011).

With the advances in information technology (IT), the traditional world of competition confined by time and geographical distance has been fundamentally altered (El Sawy, 2003). In particular, the fusion of IT and business has taken business competitions to a new domain where business values are realized in non-conventional ways in a global scale (Mao, 2011). The embedded digital component induces product changes to enhance product functionality and create new features for product differentiation; digitalize portions of the physical product allow firms to capture information during the product life cycle to provide ongoing and new downstream services; some physical products are totally replaced with digital format (Konana, 2007). Embedded digital information technologies in large scale manufacturing systems allow real-time product life cycle management which enables manufacturing firms to become more adaptive and responsive to the market (Pereira & Corra, 2007). As pointed out by Burgelman and Grove (2007), digital technology-enabled products and services often brought cross-boundary industry disruptions. Firms such as Apple that crossed the boundaries of media, telecommunications and entertainment industries are good examples.

The sustainability of firms in the digital environment will depend on their ability to compete using different strategies. For example, identifying new digital products or enhancing existing physical products with digital components becomes extremely important; the competition is no longer confined by time and space; real time delivery becomes a requirement for some industries; customers demand instant consumption and gratification; mass customization is expected to meet individual needs; business cycles tend to be much shorter from value creation to value consumption; and global competition has become real time. For business students to be competitive in this environment, they will need to develop a new set of skills, knowledge and attitudes (SKAs) relevant to the unique characteristics in this environment.

The implications of IT-business fusion and the emergence of the digital domains for business education could be viewed from several angles. First, given the newness of the emerging digital domain, there is a lack of discussion or established theory that explains what contributes to student competitiveness in this environment. Second, no framework or model has been proposed to link student competitiveness to SKAs and incorporate them into business curricula. Third, there are few up-to-date cases or practitioner’s insight to illustrate how to survive and sustain in this environment successfully. Finally, there is no clear pedagogical approach to prepare students for relevant SKAs.

The objective of this paper is to explore the implications of IT-business fusion for business education and to suggest a set of SKAs that are particularly important in the digital era. The paper is organized as follows. First, we will present a brief summary of the changing business environment and the emergence of a new digital domain due to IT and business fusion. We will then discuss the implications of the digital environment for business education with a focus on SKAs. In conclusion, a stepwise model showing how business schools can assess whether these SKAs are incorporated in their curricula.
paper is intended as an invitation for future discussion, formalization and implementation to enhance business curriculum design in the digital era.

**The Changing Business Environment Due to IT and Business Fusion**

Researchers in the management information systems (MIS) fields emphasize that IT is no longer a tool simply for helping people conduct their work; it has become an inseparable part of the social and business infrastructure that has great impact on both firm’s internal processes and external relationships (El Sawy, 2003). Firms recognize that business values can be created in digital format through products and services as well as internal and external processes in a digital technology-enabled environment (Wheeler, 2002; Sambamurthy et al., 2003; Konana, 2007). The technological impact causing disruptive changes in industries leading to the displacement and integration of extant industries and emergence of new industries are well documented in the strategic management literature (Christensen & Overdorf, 2000; Burgelman & Grove, 2007). And, it is well accepted that digital technology has become an important strategic tool for firms to develop dynamic capabilities and competitive advantage in the global market (Orlikowski, 2009; Liang et al., 2010; Lubin, 2010). Johnson and Christensen (2008) called for creating fluid business models to capture value in a dynamic environment.

As the fusion of IT and business becomes ubiquitous, a new digital domain for business competition has emerged (Mao, 2011). As illustrated in Figure 1, the business competition has expanded from the traditional two-dimensional space confined by time and geographical distance to a new digital domain that contains various partially and fully digitalized products and services.

![Figure 1. From the Physical Domain to the Emerging Digital Domain](image.png)

A few important characteristics are observed in this competitive digital domain: (1) The new digital domain takes on a new level of complexity. The traditional business domain can be described as a moderately dynamic market which has the characteristics of stable industry structure, defined boundaries, clear business models, identifiable players, as well as linear and predictable changes. Digitalization has played a critical role to transform the traditional market into a high velocity markets where industry structure are ambiguous, boundaries are blurred, business models have to be fluid, ambiguous and shifting players, changes are unpredictable and non-linear. (2) The changes brought by digital technology could also be disruptive. Digital platform are enabling cross industry boundary disruptions. In this space, firms are facing global and unexpected cross-industrial competitors in a lightning speed, while the rules of games can be quickly changed by disruptive changes caused by digital technology. (3) Digital technologies drive the changes of customer experience. The digital capabilities of allowing personal interactions between customers with the products and services create a new level of experience and expectations at physical, emotional and intellectual levels. (4) Digital technologies increase firm’s capabilities to create and capture downstream value by establishing direct relations with their customers through digitalized products and information systems. Such direct relationships also allow firms to sell complimentary services through horizontal integration.
In this digital domain, firms use their physical and digital resources to create value propositions, and establish profit mechanisms by utilizing their resources and process in various digitalized forms. As more and more products are digitalized fully or partially, digital value proposition along with digital resources and digital processes become the essence for a firm’s competitiveness in the digital domain. The main challenge for firms has become what and how much digital value should be deployed in order to be competitive. Under this scenario, IT strategy plays critical role in firms’ ability to innovate their business models to adapt to the changing paradigm of the new digital domain. IT strategy should involve every aspect of business, from digital value identification, digital profit mechanism, and managing digital resources and digital processes.

To summarize, the new digital domain is a highly dynamic and complex environment that changes rapidly. The normality of traditional industries has been disrupted. Digital technology can be an enabler for growth. Customers have higher expectations for products and services both in terms of functionality and experience. IT should be part of a firm’s core competencies and dynamic capability instead of supporting utility. Exploration and integration of knowledge about the competitive digital domain is important, and the ability to learn and identify new opportunities in this domain is critical for firm sustainability.

Implications of the IT-business Fusion for Business Education

Competing in the age of IT-business fusion requires different thinking for business education. It is imperative for business students to understand the characteristics of the emerging digital domain and that digital technology has become a key driver for companies to achieve competitive advantage. This prompts several critical questions to business educators: If IT-business fusion is changing the way of business competition, do current business curricula reflect this change? What are the new SKAs required for business graduates to be competitive in the digital business era and how to incorporate these SKAs into business curricula? In the remainder of this paper, we will propose a practical model for business schools to assess their curricula to answer these questions.

Skills, Knowledge and Attitudes to Compete in the Digital Domain

In this section, we will use the main characteristics in the digital domain to derive some key SKAs that are critical for business students to compete in the digital domain. This is certainly not a complete list and many of these SKAs are already recognized and incorporated in many business curricula. The emphasis of this table is to organize the SKAs in the context of digital domain. When students are explicitly guided to relate these SKAs to the competitive digital domain, it will shorten their learning curve and improve the effectiveness of learning. These SKAs can also help business curriculum designers better identify the learning outcomes in their curricula.

Table 1: An example of SKAs for business students in the competitive digital domain.

<table>
<thead>
<tr>
<th>Characteristics of the Competitive Digital Domain</th>
<th>SKAs in the Digital Domain</th>
</tr>
</thead>
<tbody>
<tr>
<td>Highly dynamic and complex environment with rapid, unpredictable and non-linear changes</td>
<td>Recognize the new digital domain and its characteristics</td>
</tr>
<tr>
<td>Disrupted normality of traditional industries with ambiguous industry structures, blurred boundaries, and ambiguous and shifting players</td>
<td>Understand current trends structures of main industries; become familiar with the impacts of digital technologies in traditional and new industries</td>
</tr>
<tr>
<td>Company’s growth enabled by digital technology</td>
<td>Identify opportunities through creating valid value propositions in the digital domain</td>
</tr>
<tr>
<td>IT as part of a firm’s core competencies and dynamic capability instead of supporting utility</td>
<td>Obtain comprehensive knowledge of IT including how technology works, its capabilities for functional support, IS/IT infrastructure, data mining for idea exploration, and using IT for R&amp;D</td>
</tr>
<tr>
<td>Higher expectations for products and services both in terms of functionality and customer experience</td>
<td>Understand the impact of and opportunities created by the physical, emotional and intellectual interactions with</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>New potentials for downstream and horizontal integration</th>
<th>customers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Develop innovative, creative and entrepreneurial thinking; understand the logistics of supply chain; understand how IT support internal and external logistics</td>
<td></td>
</tr>
<tr>
<td>Fluid and flexible business models</td>
<td>Understand the four key aspect of a business model: value proposition, profit mechanism, key resources and key processes; apply the concept to create dynamic digital business models</td>
</tr>
<tr>
<td>Exploration and integration of knowledge about the competitive digital domain is important, and the ability to learn and identify new opportunities in this domain is critical for firm sustainability</td>
<td>Recognize the emerging and rapidly-changing nature of the digital domain; develop ability and skills to explore and test ideas in this domain; develop knowledge and skills to continue learning from the digital domain</td>
</tr>
<tr>
<td>Degree of digitalization for product and services as a strategic challenge for every firm</td>
<td>Develop knowledge and skills in formulating digital business strategies and IT strategies</td>
</tr>
<tr>
<td>Degree of digitalization for resources and processes as a managerial challenge for every firm</td>
<td>Understand the capabilities of digital resources and processes</td>
</tr>
</tbody>
</table>

**A Model to Assess the Readiness of Business Curriculum for the Competitive Digital Domain**

Given the trend of emerging digital business domain, we believe it is critical for business schools to prepare their students with thorough understanding of how digital technology has fundamentally changed the internal operations and external environment of companies. We suggest that every business school conduct a curriculum review to determine whether key SKAs for their students entering into a digital technology-dominated world are incorporated in their curricula. As a catalyst for future discussion, we propose a three-step model for the evaluation process. Given that each business school follows its own curriculum design principles and has different program emphasis, the proposed model is meant to serve as a general guideline. Using this model, business schools can conduct an initial assessment of their curricula to better understand whether students are equipped with the necessary SKAs for firms competing in the digital domain. The model has three steps:

**Step 1: Assess student’s awareness of the new competitive digital domain**

This step involves an evaluation of student’s awareness and understanding of the new competitive digital domain. Business students should learn the characteristics of the changing environment and understand that unless they develop true appreciation of the technological impact on all aspects of business, they won’t be able to fully understand the emerging competitive digital business environment. The concept of competitive digital domain is likely discussed in courses such as introduction to business, management information systems, marketing, and strategic management. One important aspect of the assessment is to determine whether students understand that there is a fundamental change in the competitive business environment. Their attitudes to make the paradigm shift to this domain, knowledge about this domain and skills to analyze this domain will become critical asset for their own competitiveness and success.

**Step 2: Align SKAs for digital domain to existing learning outcomes in current curriculum**

This step will further identify if required SKAs in digital domain are covered in the current curriculum. A simple chart is constructed based on the first few SKAs in Table 1.
Table 2: Sample table to align SKAs with learning outcomes

<table>
<thead>
<tr>
<th>SKAs in the Digital Domain</th>
<th>Skills</th>
<th>Knowledge</th>
<th>Attitudes</th>
<th>Learning outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recognize the new digital domain and its characteristics</td>
<td></td>
<td>Characteristics of new domain</td>
<td>Awareness of the new domain</td>
<td></td>
</tr>
<tr>
<td>Understand the current trends of main industries and their structures; become familiar with the impacts of digital technologies in traditional and new industries</td>
<td>Industry analysis</td>
<td>Impact of digital technology in industry</td>
<td>Embracing the digital domain as an emerging trend</td>
<td></td>
</tr>
<tr>
<td>Identify opportunities through creating valid value propositions in the digital domain</td>
<td>Basic design skills from arts, engineering, programming</td>
<td>Product design; consumer behaviour</td>
<td>Creative, innovative and entrepreneurial thinking</td>
<td></td>
</tr>
<tr>
<td>Obtain comprehensive knowledge of IT including how technology works, its capabilities for functional support, IS/IT infrastructure, data mining for idea exploration, and using IT for R&amp;D</td>
<td>Fundamental skills in using IT tools</td>
<td>IT architecture/infrastructure</td>
<td>Embracing technology as norm for conducting business</td>
<td></td>
</tr>
</tbody>
</table>

Step 3: Identify the gaps
Given that digital technology is embedded in every aspect of social, profession and personal lives, it is important to identify the gaps and fill in these gaps with subjects from different business functional areas and subjects from multiple disciplines such as arts, science and engineering.

In conclusion, we believe that business schools should teach students new ways to perceive and reason how businesses are conducted in the digital era. In particular, students and educators will benefit from observing and learning how values are conceived, implemented and realized in an organization in a digital domain. Business schools should encourage synergy between research, curriculum development, and teaching and learning pertaining to the new skills sets that are required for students to be competitive in the digital world.

References


The Pathways Programme: Navigating educational dilemmas through hybrid virtual-work-based learning

Shirine Voller, Martin Lockett and Roger Delves, Ashridge Business School, shirine.voller@ashridge.org.uk, martin.lockett@ashridge.org.uk, roger.delves@ashridge.org.uk

Abstract: Management education faces challenging dilemmas around both content and how learners engage with this content. Management theory has been criticised for propagating unsustainable business models (Ghoshal, 2005), the rigour-relevance debate continues (Mintzberg, 2004, Bennis & O’Toole, 2005), there are advances in the understanding of effective learning transfer (Baldwin & Ford, 1988; Holton, 1996), the potential of virtual learning is clear (Gruenbaum, 2010) and learner preferences are changing (Hagemann & Chartrand, 2009; Duke CE, 2010).

This paper discusses how the design and delivery of a new postgraduate post-experience Masters in Management qualification offered by Ashridge Business School navigates these dilemmas to go beyond the potential of both face to face and traditional distance learning. Specifically, it discusses four dilemmas: 1.) practice v. theory, 2.) flexibility v. structure, 3.) distance learning v. quality of interaction and 4.) scalability v. personalisation. Emerging evidence from student feedback and faculty experience informs the discussion.

Introduction

The Pathways programme offered by Ashridge Business School was launched in 2010. It is an accredited programme of learning, leading ultimately to a Masters in Management qualification. The programme was designed to respond to a consumer-driven trend in the executive education marketplace toward shorter learning episodes, more flexibility, less time away from the workplace, and the expectation of greater versatility in modes of learning.

This paper introduces several dilemmas that the Pathways programme has attempted to address in order to reach beyond the potential of both face to face and traditional distance learning and provide a high quality learning experience for students. Four dilemmas are presented: 1.) practice v. theory, 2.) flexibility v. structure, 3.) distance learning v. quality of interaction and 4.) scalability v. personalisation. Evidence in relation to each of these dilemmas is currently being collected from students and faculty and will be presented at the EDiNEB conference in June 2011.

About the programme

The Pathways programme is segmented into three accredited stages, allowing students to achieve a degree in Management incrementally. On completion of Stage One, students qualify for a Postgraduate Certificate in Management. They may then opt to progress to Stage two: Diploma and Stage three: Masters-level study. The programme is delivered almost entirely through virtual channels. Students are required to be in employment, as work-based learning is integral to the programme design. A pre-requisite of the programme is that students must have a minimum of five days-worth of Ashridge programme attendance. Prior study through Ashridge Open or Customised programmes can be credited, or there is a choice of taking two-, three- or five-day programmes within the Stage One Certificate year. A small number of executive education providers in other geographic regions of the world are being accredited to co-deliver/sole deliver the face-to-face programme element. Delivery partner locations are currently in Africa, Asia Pacific and Eastern Europe. This will facilitate participants globally to more readily sign up for the programme without the expense and inconvenience of travel to the UK.

Learning within the programme is organised into three modules: People, Processes and Perspectives. The People theme covers leadership, behaviour and interpersonal skills; Processes focuses on cross-cutting business processes and practices, such as market understanding and project management; and Perspectives concentrates on finance and strategy. Within each module, students are required to complete assignments based on work-based projects, using material from the online Learning Zone, and to participate in a range of virtual, facilitated learning sessions, including webinars and learning support groups. For each assignment, students must undertake and report on primary research within their own organisation, a requirement intended to ensure the direct application of theory to practice and reflection thereon.
As they progress from Certificate through to Diploma and Masters-level study, students are expected to integrate and synthesise material from the core topic areas in more sophisticated ways. Assignments become longer and students must demonstrate more advanced application of theory to practice. By Masters-level, students must complete a 10,000-word dissertation based on a substantial action research project in their organisation.

Student numbers and profile
There are currently 55 students enrolled on the Pathways programme. This number is projected to grow to 150 by 2012 with further increases projected beyond this. It is a requirement of the Pathways programme that students are working managers – students are expected to embed learning about theoretical concepts through their application to workplace challenges. Recruitment for the programme is global: it is a deliberate strategy to seek growth in emerging economies. Currently, the profile of students is predominantly middle-managers in their 30s and 40s. It is anticipated that this will shift toward a younger population as the programme becomes established, with participants typically in their mid-20s to 40s.

Dilemmas the Pathways programme seeks to challenge
The Pathways programme seeks to provide a total learning experience that combines the desirable aspects of both face to face and traditional distance learning. In doing so, it challenges a number of dilemmas. Four of these are introduced below and will be discussed in more depth at the EDiNEB conference: 1.) practice v. theory, 2.) flexibility v. structure, 3.) distance learning v. quality of interaction and 4.) scalability v. personalisation.

1. Practice v. theory
Whether management education should focus on the latest management theory, or should build competence in management practice, cuts to the heart of a philosophical debate about the nature and purpose of management education (Raelin, 2007). Our position is that education should – and can – do both.

Research (Baldwin & Ford, 1988; Holton, 1996) suggests that relevance and opportunity to practice are essential to effective learning transfer. Face-to-face programmes often fall short in this area: participants leave on a ‘high’ but their good intentions rapidly fizzle out on return to the busy workplace.

The Pathways programme is therefore based on: (i) integrating theory and practice throughout; (ii) maximising learning time in daily work; and (iii) topics with both personal and organisational impact. The core is work-based assignments: with management theory and concepts as a starting point, and reflection on personal learning the final step.

2. Flexibility v. structure
Management development is moving towards shorter learning episodes, greater versatility in modes of learning, and shorter lead times from identifying needs to programme delivery. At the same time, expectations of a well-structured, balanced educational experience remain high. While flexibility is essential, both experience and research show that too much flexibility reduces impact and increases dropout (Wang & Wang, 2004).

The Pathways programme uses an innovative modular framework to allow: (i) progression through stages with Certificate/ Diploma awards for those who do not want to commit at the start to a Masters; (ii) quarterly rather than annual starts, giving flexibility and supporting faster decisions; (iii) modular design with three month blocks that provide structure while allowing some flexibility dependent on personal pressures; (iv) some choice of assignments within a curriculum that has clearly defined learning outcomes; and (v) alternative learning materials and mechanisms, including video lectures, electronic articles, e-books and online tutorials with recordings for those unable to attend real-time.

This means that students can choose the type of learning material that best suits their learning style, and learn at a time and place that suits them. The intent is to offer a high quality ‘Ashridge experience’ with low travel requirements wherever the student is based, an approach which contributes to Ashridge’s sustainability commitment and internationalisation goals, and also reduces costs for the student. The competitive pricing of the programme and payment by instalment are also intended to make the programme affordable, particularly for self-sponsored students and those from developing economies where traditional MBA-type programmes are often beyond the reach of all but the most affluent. To date, 20% of students at
Certificate stage have taken advantage of the suspension of studies option, and are expected to return to continue their study in due course.

3. Distance learning v. Quality of interaction
Models of learning other than face-to-face programmes have been around for some time. For largely remote learning programmes it is important that high quality interaction is retained by focusing on interactive activities with the highest impact, timed appropriately, building the sense of being part of a learning community.

On the programme, students participate in regular tutor-facilitated online discussions, attend webinars and interact with other students online. It has built on the pioneering research and practice of colleagues (Caulat, 2010, Taylor & Sheehan, 2010), to ensure that the quality of the virtual learning experience is high and aligned with learner preferences.

In a recent student survey (December 2010) comparing all of Ashridge’s qualification programmes, the Pathways Programme was ranked first overall in terms of the quality of the student learning experience. It was rated even higher than well-established popular programmes that involve high levels of face-to-face interaction. This confirms Ashridge research (Caulat, 2010) that fully embracing virtual mechanisms can be a highly effective first choice, not just a second rate option, compared with intensive face-to-face programmes.

4. Scalability v. personalisation
For providers, any programme that is scalable at low cost is attractive. This leads to intense pressure for standardisation. However, the needs of post-experience students are for personalised learning that: (i) uses their experience and that of fellow students; (ii) limits the study time ‘out of work’; and (iii) is highly personalised to their background and needs.

The programme has tackled this at two levels: first in the variety of learning resources, and second in assessment design. The programme’s Learning Zone (multi-dimensional OLE) contains learning resources ranging from peer discussion through facilitated learning (both live and recorded) to expert faculty with pre-recorded sessions on theories and concepts. This is very efficient in terms of academic staff time and, once created, resources can be used multiple times, even by the same student. This frees up capacity to support more interactive and personalised elements of the programme, such as the peer learning support groups, online discussions and live webinars.

While assessment questions are relatively ‘standard’, they are carefully designed to provide students with choices in terms of application to their own organisation, meeting masters-level learning goals of decision-making and application in an uncertain world. There is also flexibility in the programme requirement for a minimum of five days programme attendance.

Evidence
A stakeholder analysis is currently underway to determine the extent to which the Pathways programme really is delivering on its mission to challenge the four dilemmas articulated above. A survey of all current programme students about their experience of and satisfaction with specific aspects of the Pathways programme is in progress, and the data will be analysed in preparation for the EDiNEB conference in June 2011. Data collected by the Ashridge Programme Administration team, e.g. number and duration of visits to the Learning Zone per student per week, discussion threads from the learning support groups, qualitative and anecdotal student feedback, will also be incorporated into the analysis, as well as feedback from the programme’s faculty team. An addendum to this paper will be available at the EDiNEB conference summarising the findings from this research exercise.

Conclusion
The evidence provided in the paper, and associated EDiNEB conference presentation, is intended to demonstrate that a hybrid virtual-work-based learning approach can transcend the limitations of both face to face and traditional distance learning. At the same time, it poses new challenges for providers, including their internal assumptions about excellence and the design and delivery of future management qualifications.
References
Practice enterprise: a new didactical concept for practice learning in professional higher education

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Abstract: Professional higher education in Flanders is par excellence practice-based education. Several forms of practice learning exist: apprenticeship, project work, small business projects, work-based learning... However, we discern, besides these existing forms, a new form of practice learning: Practice Enterprise. In this paper we will outline the basics of our research project concerning Practice Enterprise. A Practice Enterprise is an enterprise (organization) within the lap of an educational institution (course) run by students and lecturers, and functioning as an educational environment. We will consider social context, theoretical framework and methodology of the research. Furthermore, we will present the main conclusions: definition, success factors and bottlenecks of Practice Enterprise and end with some examples of Practice Enterprises.

Professional higher education in Flanders is par excellence practice-based education. Several forms of practice learning exist: apprenticeship, project work, small business projects, work-based learning, ... However, we discern, besides these existing forms, a new form of practice learning: Practice Enterprise. In this paper we will outline the basics of our research project concerning Practice Enterprise. First, we will cover the context of the research and the research questions. Second, we will present some theoretical considerations. Next we will very briefly go into the methodology of the research before outlining the first conclusions. Eventually we will present some examples of Practice Enterprises.

Context and problem
Practice Enterprise is a new concept in higher education in Flanders. In the Netherlands it is more widely known, although mostly under different names. Practice Enterprise is a ‘fuzzy concept’ (Van der Klink & Streumer, 2004). Many terms and stories are used: practice enterprise, practice firm, learning company, enterprise practice, learn-work arrangement, … Moreover, all these terms and stories refer to differences in starting points, theoretical frameworks and learning practices. Therefore it is not easy to discern a clear line in this concept. However, we can connect Practice Enterprise explicitly with some social and pedagogical trends.

‘Most recent learning theories depart from realistic and meaningful learning tasks as the most important strength for learning’ (Van Merriënboer, 2002). We can certainly understand Practice Enterprise this way because realistic learning tasks are the core of the Practice Enterprise concept (cf. infra). In this respect we can also refer to the constructionist educational theory. In the social constructionist vision on education, learning is an active process. Self-control and self-regulation of the learner are central concepts in this theory. The learner builds his own meanings while learning. Moreover we have to mention the whole movement around ‘thinking in competences’ as an important social context factor. Crucial in competence-based learning and education is that a great respect of the learning happens through work-practice. ‘The development of professional competences is central in school learning as well as in practice learning’ (Onderwijsraad, 2003: 24). This means a redefinition and intensification of the cooperation between school and company is very important, which is exactly what is also essential in Practice Enterprise.

These educational trends are a result of social developments: ‘the dynamics of the labor market, fast changes in society and the quick ageing of knowledge’ (Havekes & Drenth, 2005). Besides, there is the call to a better connection between education and labor market. Concerning the very fast evolution of the labor market, technologies and systems, it is quite meaningless to provide students with too much knowledge. Instead, we should teach students ‘flexibility’ and ways to acquire new competences and knowledge quickly and efficiently.

Besides, we can situate Practice Enterprise in the light of the social call to ‘entrepreneurship’ and related ‘entrepreneurial education’. ‘During the last years the European Commission has paid much attention to the theme of ‘entrepreneurship’ (Van den Bergh, 2007: 23). In this respect, the role of education in promoting entrepreneurship has been stressed a lot (e.g. Oslo Agenda for Entrepreneurship Education in Europe, European Commission, 2007). Practice Enterprise is not equal to entrepreneurial
education, but we see in reality that Practice Enterprise-concepts are often started from an entrepreneurial viewpoint.

Regarding this educational and social context, a research project about Practice Enterprise is certainly relevant. In this project we focus on different aspects of Practice Enterprise. The project’s central research questions are:

- What is Practice Enterprise? How do we distinguish Practice Enterprise from other forms of practice learning?
- What are the key success factors of Practice Enterprise (from the viewpoint of different actors)?
- What problems and bottlenecks do educational programmers encounter developing a Practice Enterprise?

Theoretical framework

Little literature can be found specifically about Practice Enterprise as a concept in higher education. In the Netherlands, we found a few relevant sources (Lappia, 2009; Havekes & Drenth, 2005; Kikkert-Van der Grijndt, 2006). Besides, we found some relevant insights in the literature about ‘work-based learning’. In this paragraph we will briefly outline our theoretical framework.

Work-based learning

Work-based learning is, exactly like learning in a Practice Enterprise, ‘learning by doing’. A big advantage is that most of the time, people like this active form of learning much more than traditional scholastic learning. Work-based learning can take on many forms which can vary in duration, volume, location, actors, … The central given is that work-based learning is the ‘teaching and applying of competences in a work situation’. We can see Practice Enterprise as a kind of work-based learning.

Work-based learning is probably the oldest form of learning (Van der Klink, 2001: 196). Sources indicate that even 1800 years before the beginning of our era, work-based education existed. More known and closer to home the guilds of the craft profession are a famous example. The system of workman and master has functioned until the beginning of the 19th century. By then, the industrial revolution resulted in a different organization of the labor market. The small workplaces were replaced by firms and little by little the craftwork was taken over by machines. Schools were established (Van der Klink, 2001). Scholastic forms of education grew exponentially during the 20th century. It was not until the 1980’s that attention to work-based learning started to grow. As from mid-1990 integration of learning and working is placed on the agenda of higher education (Van der Klink, 2001). As mentioned above, the economic changes played an important role in this evolution. With the knowledge-economy, routine work was taken over by machines. New forms of work ask for employers who can make independent decisions and think creatively (Lappia, 2009: 13).

Regarding this social context, consensus grows in education that students should be able to solve complex practical problems and that these complex problems should be solved on the workplace itself (or ‘as if on the workplace’) (Lappia, 2009: 13). The most important advantage of working with authentic practical problems is that students see more clearly why it is a meaningful learning project (Lappia, 2009: 13). This refers to the term ‘just-in-time’ learning. At the time the question is asked, the student tries to solve the question using several and different sources to find the knowledge needed. This form of learning opposed to the traditional scholastic way of learning in which the teaching of ‘just-in-time’ knowledge is central. You learn languages, places, historical facts in case you should need the knowledge sometime in the future (Lappia, 2009: 13).

In this respect ‘transfer’ is an important theoretical concept. This is what we called ‘flexibility’ in the former paragraph. Knowledge becomes out-of-date very fast. Schools are no longer able to teach students everything they will need during the rest of their lives: ‘They must equip students with the ability to ‘transfer’ – to use what they have learned to solve new problems successfully or to learn quickly in new situations’ (Tuomi-Gröhn et al., 2003: 1). Transfer means that something that is learned, can be applied in a new situation, whether this is a learning situation or a work situation.

Social constructionism as a learning theory supports this vision (cf. supra). The starting point of the constructionist theory and of different forms of work-based learning (or practice learning) is ‘not to transmit information but rather to encourage our students' knowledge formation and development’ (Raelin, 2006: 4). Self-steering and self-regulation are important elements in this context. The student HIM- OR
HERSELF is responsible for the learning process. Moreover, the whole movement around competence-based learning has strengthened the call for linking education and professional practice (cf. supra).

**Combining different forms of learning**

To understand the concept of learning in a Practice Enterprise better and, more specifically, the advantages of this concept, we briefly refer to the view of Van Merriënboer (2002) on education. He developed an educational model for learning complex skills and professional competences. In his model Van Merriënboer stresses the integration of the curriculum in which learning tasks are the connecting element. In the model, students start with relatively simple but realistic situations in which all essential aspects of the complex learning task are included. Little by little students work towards more complex situations comparable to the professional practice. From the beginning students train themselves combining and integrating different aspects of complex tasks.

People in higher education are more and more convinced students should develop competences to be able to function adequately in the professional practice of the labor market. Attention to learning complex skills in higher education grows. Complex skills always involve the flexible combination and coordination of a group of skills while the situation in which the skill should be practiced differs. Students often complain the way they learn different aspects of complex skills is too fragmented and meaningless. In most cases educational programs are a combination of separate building stones. The building stones are usually discipline-based and fragmented in ‘knowledge, skills and attitudes’. Students believe it is more efficient and more motivating to learn the complex skills the way they will need them in practice. Besides, they want to be assessed on their ability to solve complex learning tasks.

To learn complex skills, students need a learning environment which is powerful enough to encourage ‘transfer’. This means a more authentic learning environment is needed integrating all aspects of the complex skills to be acquired.

Van Merriënboer’s view aims to integrate all aspects of complex skills. In this view, the educational course consists of many different situations in which students always train combining and coordinating all aspects. This means in the first place that integration and coordination of the curriculum is important, and that good education is a combination of different aspects, ways of learning and information. Other authors support this insight. Lappia (2009) discerns different ways of learning: by experience, by social interaction, by theory and by reflection. Next, she argues that ‘the learning potential of the workplace is exactly the opportunity to combine these different ways of learning’.

In short, we can claim that the Practice Enterprise concept makes it possible to combine different ways of learning and that is why the chance of good learning grows. Therefore we can call the Practice Enterprise environment a ‘powerful learning environment’. Indeed, the chance of ‘powerful learning processes’ increases when students can work on ‘authentic and innovative tasks and projects’ (Van den Sanden in: Kessels & Poëll, 2001). Ideally, these tasks should become more and more complex. Thus, Practice Enterprise is a well-chosen learning environment in which learning by experience can be combined with moments of action learning and formal learning. Besides, it is an ideal chance to come to a powerful, effective learning environment.

**Not that self-evident...**

The advantages of work-based learning or learning in a Practice Enterprise are numerous compared to traditional, ‘scholastic’ learning. Learning results often last longer and get strongly anchored because they are acquired not theoretically but through direct experience and acting. Moreover, the activities’ relevance and self-evidence are clearer for students (Onderwijsraad, 2003: 37). However, work-based learning or learning in a Practice Enterprise environment is not that self-evident, according to many authors. Work-based learning is a complex kind of learning (Kelchtermans et al., 2008) in which ‘reflection’ should be important. Experiences should be integrated ‘reflectively’ with former experiences and knowledge. During the practice of work-based learning the acquirement of technical knowledge often is primary, though, and there is no time for deep reflection on this knowledge.

Moreover, work-based learning and learning in a Practice Enterprise supposes a radical movement in the opinions on ‘legitimate knowledge and learning’ (Boud & Solomon, 2001). In this perspective knowledge is not considered as ‘stable’ but as ‘provisional’ until tested in a given context or in practice (Raelin, 2008). More openness in the higher educational institution is necessary for work-based learning or Practice Enterprise-learning. Not only openness in the internal structures – interdisciplinary cooperation across departments, research centers, … is needed – but also openness towards external actors. Only this
way, cooperation structures with industry and the regional professional sectors can be built (Boud & Solomon, 2001).

Besides, this way of teaching results in new relationships inside the educational institution and in a repositioning of the teacher. The teacher’s identity changes in this kind of didactical forms. He is no longer the all-knowing expert. The teacher gets a new role in the learning process. He is ‘a facilitator in learning, rather than an expert in a discipline’ (Boud & Solomon, 2001: 30). The teacher becomes a ‘consultant’ or ‘coach’ and is no longer the only ‘owner’ of his part of the curriculum. Many teachers find this switch difficult.

The role of the student also changes in this form of education. Learning in a Practice Enterprise requires a lot of the student himself. It is no longer sufficient to follow the lessons, listen to the teacher and study. In a Practice Enterprise students have the responsibility for their own learning experiences. This means students not only have to ‘be able to learn’ but also have to ‘want to learn’. By all means the effectiveness of the workplace or the Practice Enterprise as a powerful learning environment depends on the circumstances in which one operates (Lappia, 2009). Work-based learning is ‘situated’ learning because the learning opportunities depend largely on the characteristics of the (working) situation (Onderwijsraad, 2003: 11). Translated to Practice Enterprise, this means that the setting of the Practice Enterprise highly influences the efficiency: which tasks, problems should be solved, how are students supervised and assessed? An advantage of the Practice Enterprise compared to a normal apprenticeship is then that didactical intervention is much easier in a Practice Enterprise environment. Besides, in a Practice Enterprise, much more than in an apprenticeship, teachers can influence the supervision of students. So far for the theoretical background in which we can situate the Practice Enterprise concept. In the next paragraph, we will go into the methodological aspects of the research project.

Methodology
We distinguish three phases in our methodology. During the first phase we looked for success factors and bottlenecks through desk research, study of literature, field visits and a panel study of experts. This phase has been completed. In the second research phase we check and deepen the results of the first phase in six case-studies. In each of the participating Practice Enterprises of the project (6 in total) we questioned students, lecturers, directors, alumni and the work field and collected their experiences. The third phase will focus on six bottlenecks detected in the case-studies and will implement improvements in each of the cases. The second and third phase of the project are not finished yet. The research and development project will be finished at the end of 2011.

Conclusions
In this paragraph we will outline the most important preliminary conclusions of our research project. First we focus on the definition of Practice Enterprise. Second we go into the principal success factors of Practice Enterprise. Third, the most important bottlenecks are presented.

Definition
To find a clear and workable definition of Practice Enterprise was not easy. First, because of the lack of literature specifically focused on Practice Enterprise. Second, because in the reality of the practice of higher education, we found so many very different forms of Practice Enterprise. This made it difficult to distract a common line in all these different, individual cases. Nevertheless, we succeeded in finding a definition. First, we will outline the definition. Secondly, we will split it up in different elements and aspects. The first year of study resulted in this definition of Practice Enterprise.

“A Practice Enterprise is an enterprise (organization) within an educational institution (course) run by students and lecturers, and functioning as an educational environment. The Practice Enterprise continues to exist, independent of incoming and outgoing students. The Practice Enterprise delivers real products and/or services to its customers. Within the Practice Enterprise students carry out all working processes typical of the professional context. The professional field is involved actively in the learning process. The educational institution has the final responsibility for the quality of the work and the quality of the education.”
In the first figure we graphically present all elements of this definition. The three elements in the middle of
the figure are the key elements in the definition. If these elements are not present, we do not speak of a
Practice Enterprise.

Figure 1: Presentation of all elements of a Practice Enterprise

Besides these key elements, we discern a few aspects which are characteristic for a Practice
Enterprise. We can see each of these aspects as a continuum. In an existing didactic form, more or less of
these aspects can be integrated. The more each of these aspects are integrated in the Practice Enterprise, the
more fully fledged the Practice Enterprise is. Existing forms of practice learning can gradually evolve
towards a Practice Enterprise by making changes on a few or all of these aspects. In certain educational
contexts it may be possible that a ‘less complete’ Practice Enterprise is more suitable than a full Practice
Enterprise. We present this ‘roadmap’ in figure 2.

Quality factors
Quality or success factors are elements which positively influence the working of a Practice Enterprise.
Based on the literature, we found the following quality factors. Further research (in a later phase of our
project) should distinguish the most important factors.
1. Teamwork. Learning in teams, together, interactively and collaboratively can be seen as an
important advantage of Practice Enterprise. Students learn from each other. Peer support is
important. A success factor can be to involve more experienced students to instruct/coach new
students. Working in team is also an advantage for teachers, because it can result in more team
spirit (Lappia, 2009; Kikkert-Van der Griendt, 2006).
2. Formulating clear goals. It is important to translate the competences and skills students have to
learn in terms of the new Practice Enterprise context (Pouw, 2007). Students should also be
informed about the goals. Moreover, transparency in the structures is needed. It should be clear for
everyone who is responsible for what (Maes et al., 2008).
3. Organization. Explicit planning and a good preparation is necessary. There should be enough time to work on the projects. The intensity and the duration of the Practice Enterprise activities should be sufficient. The planning should also be flexible.

4. Didactic aspects. An advantage of a Practice Enterprise (opposed to the real work situation) is the possibility to intervene when things go wrong. Although some authors (Havekes & Drenth, 2005) mention that avoiding to intervene too soon is a success factor.

5. Coaching and support. It is important that students get enough coaching and support doing their assignments. Students learn more if a coach regularly asks learning questions (Kikkert-Van der Griendt, 2006).

6. Content of the assignments. Assignments should be socially relevant. They have to be useful for teachers and principals. Ideal are ‘authentic and innovative assignments and projects that increase in complexity’ (Van den Sanden, 2001). The assignments should be real and they have to vary.

7. Common vision and integration in curriculum. A Practice Enterprise should start from a common vision of all central actors (teachers, heads, and partners from the professional field). There should be consistence and balance between all elements of the Practice Enterprise and the Practice Enterprise should be integrated in the curriculum.

8. Cooperation of the professional field. A good network of regional partners in the professional field is essential (Rasmussen & Sorheim, 2006). It is interesting in this respect to involve alumni. They can be a role model e.g. as entrepreneurs (Van den Berghe, 2007).

9. Facilities, means and support from the institution. Good facilities and sufficient means are important success factors. A permanent location for the students is an advantage. Moreover, support of the management of the institution is crucial for the Practice Enterprise.

10. Adapted legal-financial framework – policy concerning property rights. A Practice Enterprise needs clear regulations and a clear legal framework. A contract for partner companies or students can be needed. If necessary, external expertise should be consulted.

11. Students. A Practice Enterprise works best if the responsibility is located with the students and especially with the student group (Collan & Kallio-Gerlander, 2006).

12. Interdisciplinarity. Practice Enterprise is par excellence a way of learning in which the knowledge and content of all subjects can be integrated. In a Practice Enterprise students often realize the relevance of what they learned in other subjects (Gramlinger, 2003). Besides, it is possible in a Practice Enterprise to cross the borders of study departments and to work in multi-/interdisciplinary teams.

13. Assessment based on competences. In a Practice Enterprise assessments are preferably based on competences. Often a portfolio is used.

14. Enthusiastic and persistent teachers. A Practice Enterprise demands enthusiasm and persistence of teachers. Teachers should take on their new role of coach and persist in that role. Teachers should also have enough expertise and an innovative mind. Besides, it is important that the institution appreciates the work of the teachers in the Practice Enterprise and provides extra schooling and the possibility to get external advice.
Bottlenecks
Almost all success factors can become bottlenecks if they are not or insufficiently present. In this way, the bottlenecks are actually the reverse of the quality factors. However, in the literature, a few specific bottlenecks are mentioned. We will go shortly into these bottlenecks.

1. Quality of the results. It is possible that Practice Enterprises are not taken seriously by clients/principals. A Practice Enterprise is a learning concept, which means that mistakes can (or may) be made. But potential principals do not always trust the results (Kikkert – Van der Griendt, 2006; Gramlinger, 2003). Thus, quality control is very important.

2. Learning output. Sometimes the learning output is questioned in the Practice Enterprise concept. Usually Practice Enterprises are small-scaled and the question is if there is enough learning output for the students in all roles or functions important for the profession (Kikkert– Van der Griendt, 2006).

3. Time. A success factor mentioned above is enough duration and intensity of the Practice Enterprise. Many Practice Enterprises are active only once a week and because of the big intervals between the activities it is difficult to work efficiently (Gramlinger, 2003).

4. Autonomy. A Practice Enterprise asks for an autonomous decision-making structure (De Kaper, s.d.).
5. Assessment. The assessment should be competence-based. In many Practice Enterprises this is a bottleneck (a.o. De Kaper, s.d.). It is often difficult to find a good balance between the time needed for assessments and the reliability of the assessment system.

6. Reflection. Often the work pressure for students is high in a Practice Enterprise and little time is left to reflect on what is learned.

Examples of Practice Enterprises

We will end this paper by giving some examples of Practice Enterprises or related work forms. More specifically we will shortly present the cases that participate in our research project. Note that these cases are not stable but evolving and flexible working forms. We present the cases as they function right now (February 2011).

Pitch
Pitch is the Practice Enterprise concept in the educational course ‘communication management’ of Lessius Mechelen University College. Pitch is a separate subject in the first semester of the third year of study and involves 9 credits. In Pitch the students are divided in teams of about six persons. Each team is a communication office (PR, commercial or event office). Each student has a specific function or role in the office and they work in teams during the whole semester on a real assignment for a real company (developing a communication plan). The teams compete with each other. At the end the students give a presentation for a jury consisting of teachers and representatives from the professional field. One team wins and gets a nice price. The company who gives the assignment pays a certain amount of money for the results of the students.

Supo
Supo is the Practice Enterprise concept of the third year of study of the educational course journalism of Lessius Mechelen University College. Supo is an interactive multimedia platform. Students work along the concept of a real media editorial office and make television, radio and print products. The target groups of Supo are youngsters. Supo is closely connected to all subjects in the third year of study. Students work in Supo during the whole third year of study. Supo is an autonomous media organization. The online magazine www.supo.be is updated daily. Supo delivers media products to external media organizations f.e. to a regional TV-channel and regional radio channels.

Design Office
Design Office is the Practice Enterprise concept in the educational course interior design of Lessius Mechelen University College. A selected group of students (students who study a bachelor after bachelor interior design mixed with a selected group of third year students from the regular educational course) form interior design offices. They work on real assignments. Some of the assignments are provided by the teachers, some of the assignments the students have to search themselves. The students are not only coached in their technical skills but also in their social, entrepreneurial and communication skills.

Europackage & print
Europackage & print is the Practice Enterprise of the educational programme Office Management of the KH Kempen University College. Europackage & Print is part of the Europen-PEN International network. This is a worldwide network of virtual practice firms. Institutions of higher education as well as secondary schools or institutions of adult education can start a practice firm. The practice firm work is analogous to a real firm – often the godfather company is the example of the practice firm. The commercial processes are real but the students do not work with real products and real money. Europackage & print already started in 2000. Different subjects are connected to the practice firm for students of the second and third year of study. Europackage & print was started as a way to practice international languages. Throughout the years Europackage & print has grown into a practice component which involves almost all aspects of the educational course Office Management: administration, communication and organization.
COFEP

The Practice Enterprise of the educational course Office Management of the KATHO University College, COFEP, works in the same network as Europackage & print. However, in COFEP there are four practice firms active: Balico (ergonomic office materials), Plan-it (organization of offices), Vision-Tech (multimedia materials) and C4C (catering for companies). The students of the third year of study work during the whole academic year in one practice firm. COFEP is a separate subject of 9 credits, but is closely connected to almost all subjects of the third year of study.

References


Improving the effectiveness of online elearning systems

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The achievement of pedagogical objectives in online learning platforms is proving increasingly difficult. Poor student motivation, lack of interest, student isolation, unfamiliarity with the use of technology are a few of the factors contributing to this. In principle, online learning systems should be able to achieve a higher degree of student motivation and student achievement. Most online learning systems thought lack in providing the learner with these abilities, usually due to bad design and implementation. Most online learning platforms are usually used for supporting in-class learning and appear as material dissemination platforms. All learners are presented with the same interface and the the same tools. Although communication is enabled, it is usually not adaptive to user needs and competences. Assessment tools are also presented without differentiation to all users. Finally, the systems are not able to support self-paced learning adapting to user learning rate and life-style. In a diverse learner group the online learning platform should serve as a learning tool rather than a supportive tool.

In this paper we present an elearning system development framework, based on the ISO 9126 software quality factors, the Web2.0 tools and the provision self-paced learning. Online learning software has to adhere to the software quality factors as defined in the ISO 9126 standard. The advent of Web2.0 tools and technologies is enhancing the interactivity of online learning platforms, but care should be taking not to deviate from the pedagogical objectives. Most learners are already familiar with Web2.0 tools and technologies and will be able to use them for enhancing their learning experience. Tools such as Blogs and wikis can be used for informal information and experience sharing. Instructors may use such tools to attract learner attention and improve motivation. Another tool to attract learner interest will be the use of videos and pre-recorded material in the form of lectures and tutorials, conveying some of the lecture qualities to the virtual environment.

The online learning platform should also be able to provide the learner with individually defined and adaptive learning paths. It is often the case that online learners come form different and diverse backgrounds with varying competences and skills. A uniformity of background competences and skills may be achieved through the use especially designed material, where each learner selects and follows a different learning path. The learner should also be able to create a personalized schedule according to the time available for studying. Personalized schedules will allow learners to make better use of their time and thus retain interest and increase motivation.

Learner evaluation must be adaptable and self-paced. Learners become highly motivated if the online learning system keeps offering challenges at the correct pace. The learner feels confident and retains interest in advancing his/her knowledge. A fast paced system creates learners who can not keep up with the system lose interest and quit. A slow paced system creates bored learners who lose motivation and interest. A well paced evaluation system with frequent rewards and clearly defined goals creates motivated and dedicated learners. The feeling of isolation and "being left behind" is easily created in the virtual environment, especially for learners who are not used in the using the new technologies. The right mix of technologies and methods will help overcome this.

Finally, online system evaluation is crucial in monitoring system performance. Not only the learner but the online system too should be scrutinized for its performance. In order to achieve this both instructors and learners should evaluate the system in all aspects. Learner experience is the most valuable tool in assessing system qualities as it can reveal strengths and weaknesses in all levels. Self-paced systems should be able to provide an enhanced user experience to users from diverse backgrounds. Learner evaluation combined with the achievement of pedagogical goals will provide a measure of the system effectiveness. This measure will allow both instructors and system designers to redesign and possibly extend the design of online learning systems to systems that provide complete and reliable learning platforms. The elearning system development framework to be presented in this paper; based on the ISO 9126 software quality factors, the Web2.0 tools and the provision self-paced learning provides the framework for developing successful online learning systems.
An oscar for your (e)course: learning to e-learn by e-learning

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A few years ago, the University College of Mechelen started to organize a few of its study programs in the evening, thus attracting a new group of students, namely those who already are working, but want to upgrade their degree. Of course the number of hours that these students can spend in a classroom is much less than for “fulltime” students. Logically, the information that was usually brought across in classroom trainings (c-learning) partially or mainly needed to be transferred to digital learning materials (e-learing).

Quickly became clear that teachers not only needed support in getting to know the “buttons, bells and whistles” of the digital learning platform the institute uses. Often, the teachers needed to rethink their pedagogical approach: from “c-learning supported by e-learing” to “e-learing supported by c-learning”.

To support them, the “Oscar for your (e)course” learning path was developed. It is a 10-week training program, consisting of 2 ‘live’ meetings and 8 online modules. The learning path is based on the ADDIE-model for the development of digital learning content, but has broadened several concepts of this model to a much more “blended” approach. The learning path starts with face-2-face kick-off workshop, where the participants get to know each other, thus creating a social network to support them during the online modules. During this workshop each participant analyses his own course: the main goals, the target group, etc. They each set the priorities to tackle, and design a new structure and scenario for their course. In a next modules, the teacher gets to know the tools to implement this design: from Word-functionalities to make a good-looking printed course, to recording a webinar or organizing an online consultation hour. From making a catchy presentation to moderating online discussion boards.

As most of the learning path is organized online, teachers themselves get to digest a large dose of “e”. In this way, they experience how it is to professionalize or study via blended learning. The concept is that they learn how to teach via “blended learning” by experiencing “blended learning”. The hope is that if they implement these tools and the corresponding pedagogical approach, this will result in a state-of-the art, crème de la crème course.
Learning Styles and VSC Modules: A Statistical Analysis of Perceived and Actual Effectiveness

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Abstract: The advent of tablet PC’s and electronic ink combined with video screen capture (VSC) software, allows for the easy and cost effective recording of both visual and auditory components of the development of a mathematical concept, with very simple technological requirements. The resulting learning module, in addition to providing an oral exposition in real time, can be stopped, started and replayed at any point, providing the learner with the ability to engage the material at a time and speed convenient to them. Given the multiple modalities of learning that VSC modules encapsulate, the question arises as to whether the predominant learning style of a course participant impacts the perceived and actual value of VSC modules. Employing students from an introductory finance course in an MBA program the use and perceived value of VSC modules and ultimate performance is examined while controlling for primary learning styles.

Introduction
Failure or non-completion rates in introductory Finance courses can be significantly greater than those in other business subjects and like many mathematically based subjects, classroom instruction is often critical for success. A common pedagogical tool employed in such subject areas, known as the “chalk and talk” approach, is one where the instructor proves a formula or application in handwritten steps on a chalk board, while simultaneously describing the process orally. Although a relatively simple approach, the learning modalities engaged are relatively complex, involving auditory, visual and perhaps even a form of kinaesthetic learning through the transcription process. Its disadvantages however include that fact that that course participants may find it difficult to reconstruct nuances of the proof or problem solution from written notes at a later date. This may be particularly the case for international students, whose proficiency in the language of instruction may be somewhat weak.

The advent of tablet PC’s and electronic ink combined with video screen capture (VSC) software, however, allows for the easy and cost effective recording of both visual and auditory components of the development of a mathematical concept, with very simple technological requirements and training on the part of the instructor. Course participants can then be provided with a concise and richer form of e-learning objects than simply notes or Power Point slides. The ability to stop, start and replay the modules provides students with the ability to engage the material at their convenience, providing a benefit over and above that of classroom instruction. Indeed a number of recent studies have indicated that learning modules created with VSC and tablet PC technology can be of significant aid in cognition (Folkstand & Miranda, 2002; Bonnington et al, 2007) and particularly for mathematically based material (Aminifar et al., 2007) Similar benefits have been noted in the use of FlashTM videos for homework solutions (Grinder, 2008). Cyr (2010 and 2011) also finds that the perceived value of VSC modules is relatively high among students of financial mathematics.

The use and effectiveness of VSC modules gives rise, however, to several pedagogical research questions, which Cyr (2011) attempts to address and the current study builds upon. With the goal of examining several hypotheses, Cyr (2011) surveyed 86 MBA students enrolled in a 13 week introductory Corporate Finance course with respect to their use and perceived value of two VSC modules. The modules were designed to provide proofs and applications of relatively difficult financial concepts. The 86 students were comprised of both native English language speakers and/or students with a high proficiency in English, and a cohort of international students whose English language proficiency was somewhat lower. In addition to examining their ultimate performance on examination questions covering related material the hypotheses explored through the study were: Hypothesis 1 - VSC modules are of significant perceived value in learning complex financial concepts and the use of VSC modules results in a significant increase in course performance; Hypothesis 2 - students find the use of VSC modules to be of value as a substitution for in-class instruction; Hypothesis 3 - the use of VSC modules is of significant value to international
students whose English language (the language of instruction) proficiency may be relatively weak; Hypothesis 4 - the perceived and actual effectiveness of VSC modules is dependent upon the subject’s primary intelligence or learning style as defined by Gardner (1983).

The findings indicated that both domestic and international students appeared to have a relatively high perception of the usefulness of the VSC modules although the stated use of the modules was significantly greater among international students. Although both domestic and international students indicated little support for the replacement of in-class instruction with VSC modules, the support was statistically greater among the international students. Although the results would appear to indicate that individuals with a linguistic or interpersonal learning style appeared to use and value the modules the most, they were also among the lowest in performance based on rank ordering. The purpose of the current paper is to examine these preliminary results in more detail and in particular with a more robust statistical approach. The paper proceeds by briefly introducing Gardner’s nine intelligences or learning styles, followed by a description of the VSC modules employed for the study, the subjects and survey instrument. The basic results are reviewed and an analysis focused primarily on the impact of learning styles follows. The paper then concludes, along with suggestions for further research.

Learning Styles
The literature on multiple intelligences and its potential impact on learning has received a lot of attention over the past twenty-five years, since the original work of Howard Gardner (1983). Gardner defined seven “intelligences” (linguistic, musical, bodily-kinaesthetic, spatial/visual, interpersonal, logical-mathematical, intrapersonal) and later (Gardner, 1999), an additional two (naturalist and existentialist). categories Gardner postulates that the nine intelligences relate to the methods in which an individual best receives and retains information, providing an indication of the tools and techniques, or learning styles, that would facilitate comprehension and retention. An individual that exhibits a musical intelligence would, for example, tend to prefer and respond better to learning activities that incorporate music or rhythm. It is also postulated that multiple intelligence has a significant impact on chosen careers. Table 1 provides a brief summary of Gardner’s list of intelligences and the preferred learning styles associated with each.

Table 1: Gardner’s list of intelligences and their preferred learning styles

<table>
<thead>
<tr>
<th>Intelligence</th>
<th>Preferred learning style</th>
</tr>
</thead>
<tbody>
<tr>
<td>Naturalist</td>
<td>environment, nature</td>
</tr>
<tr>
<td>Musical</td>
<td>music, sounds, rhythm</td>
</tr>
<tr>
<td>Logical – Mathematical</td>
<td>numbers, mathematics and logic</td>
</tr>
<tr>
<td>Existential</td>
<td>spiritual, larger issues, affect on society</td>
</tr>
<tr>
<td>Interpersonal</td>
<td>human communication, cooperation, teamwork</td>
</tr>
<tr>
<td>Kinaesthetic</td>
<td>physical experience, movement, touch and feel</td>
</tr>
<tr>
<td>Linguistic</td>
<td>words and language</td>
</tr>
<tr>
<td>Intrapersonal</td>
<td>self-reflection, self-discovery</td>
</tr>
<tr>
<td>Visual</td>
<td>pictures, shapes, images, 3D</td>
</tr>
</tbody>
</table>

Although the theory of multiple intelligences has been criticized (Waterhouse, 2006a, 2006b; Stahl, 1999) it remains a popular categorization applied in many educational settings. It is interesting to note that much of the evidence supporting or refuting the theory of multiple intelligences is based on studies of the impact of music on learning, and that much research remains as to the validity of the results. A succinct review of such literature can be found in Berk (2008).

In summary though, it would seem reasonable to believe that individuals exhibiting a logical-mathematical learning style would tend to be inherently oriented towards the mathematically based material typically presented in an introductory Finance course. The question arises as to whether VSC modules would also be of value in helping individuals exhibiting other learning styles to master such material. In particular, given the nature of the modules, it is possible that they may also be valuable tools for individuals with linguistic, kinaesthetic and perhaps visual learning styles.
VSC Modules and Survey Data

Survey Participants
During the 2010 fall academic term (September through December) two VSC modules, focusing on similar concepts in financial mathematics, were made available to course participants enrolled in three different sections of an introductory Corporate Finance course (Cyr, 2011). The course is a mandatory component of the Masters in Business Administration (MBA) degree program at Brock University, Canada. The MBA program at Brock University is offered in two distinct streams. One stream (domestic) is for participants who are native English speakers or, whose fluency in the English language is fairly high, while the second stream (international) is designed primarily for international students whose score on an English language proficiency test is relatively low. Consequently, the existence of the two streams provided for the testing of the relative value of the SCV modules, for those students who may exhibit a lack of English language proficiency. In total 86 students were subjects in the survey, 25 of which were enrolled in the domestic stream while 61 students were members of the international stream. The countries of origin for students in the international stream were approximately 60% China, 30% Saudi Arabia, 8% India and 2% other.

VSC Modules
Using a tablet PC with VSC software and headset microphone, VSC modules were created, with electronic ink software (Microsoft Windows Journal™), of the proof of two relatively difficult but related concepts in introductory financial mathematics; that of the formula for the present value of a growing annuity, and the related formula for the pricing of common shares under the assumption of two stages of dividend growth. As noted in Cyr (2010) the instructor’s experience in creating the modules was a relatively positive one with few technical difficulties. A key advantage of the technology is that the instructor derives a mathematical proof or formula in electronic ink using their own handwriting, as opposed to mathematical text software which can frequently be difficult or time consuming to employ.

The first VSC module presented to the students dealt with the concept of the present value of a growing annuity, which has often represented a relatively difficult formulation for students to grasp. It is the formula for calculating the present value of a series of cash flows that is growing at a constant annual growth rate (g) for a fixed number of periods (n). The first cash flow (C₁), which occurs at the end of the first year, then grows at the annual growth rate in subsequent years. The present value (PV) of the total series of cash flows, calculated using a fixed annual interest or discount rate (k) is given by:

\[
P V = \frac{C_1}{k - g} - \frac{C_1 (1 + g)^n}{k - g} (1 + k)^{-n}
\]

For both streams (domestic and international) of the course, an exposition of the formula was first developed through in-class instruction using the “chalk and talk” approach. The VSC module relating to the concept was then provided to course participants for further review and reference, through the course website. Figure 1 provides a screen capture of the VSC module showing the development of the formula.
The second but related concept is known as the two-stage dividend growth model for share valuation. In this model it is assumed that the dividend per share, paid by a firm to its common shareholders after the first year \(D_1\), grows at a constant growth rate \(g_1\) for a fixed number of years \(n\). Subsequent to the \(n^{th}\) period the dividend continues to grow, but at a different growth rate \(g_2\). The share valuation \(P\) is represented by the present value of the assumed dividends, given a discount rate \(k\):

\[
P = \frac{D_1}{k - g_1} - \frac{D_1 (1 + g_1)^n}{k - g_1} (1 + k)^{-n} + \frac{D_1 (1 + g_1)^{n-1}(1 + g_2)}{k - g_2} (1 + k)^{-n}
\]

The formula is related to the concept of the present value of a growing annuity, however, it has the added complexity of subsequent cash flows after the \(n^{th}\) period. Course participants were provided with two SCV modules as part of a lecture on the topic of share valuation. The first SCV module outlined the development and intuition of the formula, while the second module provided a numerical example of its use. A key difference in this second use of VSC modules was that an in-class exposition of the topic was not provided; students were simply asked to review and learn the concept using the VSC modules. Consequently the perceived value of the VSC modules, as a substitute for in-class instruction could be assessed.

**Survey Instrument**

At the end of the course, students in both streams were asked to complete a survey with respect to the nature of their use of the VSC modules, as well as their perception of the value of the modules (Cyr, 2011). Similar to the survey carried out in the preliminary study of Cyr (2010) with respect to VSC module use, students were asked whether they viewed the modules more than once as part of their studying, and whether they stopped the modules or replayed sections in order to increase their understanding. Two subsequent questions related to the perceived usefulness of the modules for 1) understanding of the concepts and 2) whether the respondent viewed the modules as having value in helping them to achieve a higher course grade. Finally, with respect to the two stage growth dividend valuation model, respondents were asked whether they felt an in-class presentation was necessary given the VSC modules supplied.

In order to measure a student’s primary learning style, Cyr (2011) included a learning style inventory as part of the survey. The inventory consisted of nine sections, corresponding to Gardner’s nine intelligences, with ten statements associated with each section. The ten statements related to aspects of behaviour that may be consistent with a particular learning style. For example, the section relating to a logical intelligence consisted of the following ten statements:
Section 3 (Logical - mathematical intelligence)

_____ I keep my things neat and orderly.
_____ Step-by-step directions are a big help.
_____ Solving problems comes easily to me.
_____ I get easily frustrated with disorganized people.
_____ I can complete calculations quickly in my head
_____ Puzzles requiring reasoning are fun.
_____ I can’t begin an assignment until all my questions are answered
_____ Structure helps me be successful.
_____ I find working on a computer spreadsheet or database rewarding.
_____ Things have to make sense to me or I am dissatisfied.

For each of the nine sections the survey participant was asked to indicate which of the statements they felt was a good representation of their own preferences or behavior. They were allowed to note an affinity with as many of the ten statements in each section as they wished.

Results

Perceived Value and Use of VSC Modules

Table 2 provides a summary of the survey results from Cyr (2011) with respect to the general use and perceived value of the VSC module pertaining to the concept of the present value of a growing annuity.

Table 2: Survey responses to VSC video on present value of growing annuity concept.

<table>
<thead>
<tr>
<th>Question</th>
<th>Stream</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Viewed lesson more than once?</td>
<td>Domestic(D)</td>
<td>56.0% (14)</td>
<td>44.0% (11)</td>
</tr>
<tr>
<td></td>
<td>Intl (I)</td>
<td>73.8% (45)</td>
<td>22.2% (16)</td>
</tr>
<tr>
<td></td>
<td>Total (86)</td>
<td>68.6% (59)</td>
<td>31.4% (27)</td>
</tr>
<tr>
<td>$\chi^2 = 2.6$ (p = .1069)</td>
<td>$\chi^2 = 1.84$ (p = .1749)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stopped or replayed portion</td>
<td>Domestic(D)</td>
<td>48.0% (12)</td>
<td>52.0% (13)</td>
</tr>
<tr>
<td></td>
<td>Intl (I)</td>
<td>77.0% (47)</td>
<td>23.0% (14)</td>
</tr>
<tr>
<td></td>
<td>Total (86)</td>
<td>68.6% (59)</td>
<td>31.4% (27)</td>
</tr>
<tr>
<td>$\chi^2 = 6.947$ (p = .00839)</td>
<td>$\chi^2 = 5.664$ (p = .0173)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Useful for understanding</td>
<td>Domestic(D)</td>
<td>8.0% (2)</td>
<td>8.0% (2)</td>
</tr>
<tr>
<td></td>
<td>Intl (I)</td>
<td>6.6% (4)</td>
<td>3.3% (2)</td>
</tr>
<tr>
<td></td>
<td>Total (86)</td>
<td>7.0% (6)</td>
<td>4.7% (4)</td>
</tr>
<tr>
<td>$\chi^2 = 2.548$ (p = .6361)</td>
<td>$\chi^2 = 5.664$ (p = .0173)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Will help to achieve a higher grade?</td>
<td>Domestic(D)</td>
<td>4.0% (1)</td>
<td>0.0% (1)</td>
</tr>
<tr>
<td></td>
<td>Intl (I)</td>
<td>3.3% (2)</td>
<td>6.6% (4)</td>
</tr>
<tr>
<td></td>
<td>Total (86)</td>
<td>3.5% (3)</td>
<td>5.8% (5)</td>
</tr>
<tr>
<td>$\chi^2 = 6.292$ (p = .1784)</td>
<td>$\chi^2 = 4.959$ (p = .2915)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Although approximately 70% of both domestic and international students viewed the module more than once, and stopped or replayed a portion of it, a higher percentage of international students (73.8% viewed more than once, 77% stopped or replayed) did so, than did the domestic students (56% and 48% respectively). The chi-squared test reported in the table indicates a significant difference in terms of this result. Similar results were obtained with respect to the two stage dividend growth module (results available from the author). In general, students in the international program appeared to exhibit a greater use of the modules, on average.
No significant differences were noted between domestic and international students, however, in terms of perceived usefulness of the modules. Table 2 indicates that 62% of the domestic students and 65% of international students agreed or strongly agreed that the growing annuity module was useful. In addition, 52% and 63% of the domestic and international students respectively, agreed or strongly agreed with the statement that the modules would help them to achieve a higher grade. Similar results were found with respect to the perceived usefulness of the dividend growth modules. In general, these results are consistent with those previously obtained in Cyr (2010).

**Replacement of in-class instruction by VSC modules**

Table 3 provides the results of the survey question as to whether students were in agreement with the statement that an in-class presentation of the two-stage dividend growth model was not required, given the availability of the VSC modules. In general, few students were in support of the statement with only 8% of domestic students and 20% of international students agreeing or strongly agreeing that an in-class presentation was not required. The difference between the domestic and international student response was statistically significant however, and was not impacted by use of the modules, for which the frequency among international students was greater (results available from the author). In addition Cyr (2011) surveyed the students as to whether they had prior experience with an on-line course. Approximately 25% of both domestic and international students had a prior experience with an on-line course but this had no statistical impact on the results.

The difference between the responses of the domestic and international students is interesting and possibly indicates that, given the potential difficulty an international student may encounter in comprehending material during an in-class presentation, that it is of lesser value than that for a domestic student. Obviously, however, the majority of domestic and international students would prefer additional in-class instruction.

**Table 3: Survey responses to VSC modules on two stage dividend growth valuation model.**

<table>
<thead>
<tr>
<th>Question</th>
<th>Stream</th>
<th>Domestic (D)</th>
<th></th>
<th>Intl (I)</th>
<th></th>
<th>(1) Strongly Disagree</th>
<th>(2) Disagree</th>
<th>(3) Neutral</th>
<th>(4) Agree</th>
<th>(5) Strongly Agree</th>
<th>Avg. Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>in-class presentation not required</td>
<td>D (25)</td>
<td>56.0% (14)</td>
<td>12.0% (3)</td>
<td>24.0% (6)</td>
<td>8.0% (2)</td>
<td>0.0% (0)</td>
<td>1.84</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>I (61)</td>
<td>21.3% (13)</td>
<td>36.1% (22)</td>
<td>27.9% (17)</td>
<td>11.5% (7)</td>
<td>8.2% (5)</td>
<td>2.39</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total (86)</td>
<td>31.4% (27)</td>
<td>29.1% (25)</td>
<td>26.7% (23)</td>
<td>10.5% (9)</td>
<td>5.80% (5)</td>
<td>2.23</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

$X^2 = 12.904 (p = .0118)$ Yates $X^2 = 9.685 (p = .0461)$

**Learning Styles**

As previously indicated, the survey instrument applied by Cyr (2011) included a learning style inventory relating to Gardner’s nine intelligences. The general “intensity” of responses to the survey varied across respondents, with some students indicating a relatively high affinity across all nine learning styles, while some indicated a generally low level of affinity. Consequently, each student’s responses were converted to a measure of relative intensity, with respect to a student’s overall response rate, and students then categorized by their primary learning style. In very few cases participants indicated equal relative affinity to more than one learning style, and in such cases they were categorized as one of the major learning styles of logical, visual, kinaesthetic or linguistic. Fig. 1 indicates the observed proportion of primary learning styles with respect to both domestic and international students. The most frequent primary learning style among both domestic and international students was that of intrapersonal. Only a few international students identified with the naturalist learning style, and none were associated with the musical learning style. Given the similarity of the distribution of primary learning styles among international and domestic students the data from the two groups was then combined for further analysis.
Table 4 provides the average responses of all students, categorized by primary learning style, with respect to their use and, perceived effectiveness of the VSC modules. In addition, the average performance on the final comprehensive examination, by students in each learning style category, is provided and the average results in terms of a final exam question that dealt directly with the use of the growing annuity. The scores assigned on the directly related question were based on a 1 to 5 rubric scoring of the students’ apparent understanding and ability to use the concept correctly. The rubric scoring was then scaled to match the overall average of the comprehensive examination.

Table 4: Average use, perceived usefulness and test scores by primary learning style

<table>
<thead>
<tr>
<th>Intelligence and number of survey participants</th>
<th>Naturalist (4)</th>
<th>Logical (11)</th>
<th>Existentialist (6)</th>
<th>Interpersonal (5)</th>
<th>Kinaesthetic (12)</th>
<th>Linguistic (5)</th>
<th>Intrapersonal (34)</th>
<th>Visual (6)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Present Value of Growing Annuity</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Played &gt;1 (0 or 1)</td>
<td>0.71</td>
<td>0.64</td>
<td>0.83</td>
<td>0.80</td>
<td>0.67</td>
<td>1.00</td>
<td>0.65</td>
<td>0.50</td>
</tr>
<tr>
<td>Stop or replay portion (0 or 1)</td>
<td>0.86</td>
<td>0.64</td>
<td>0.50</td>
<td>0.80</td>
<td>0.67</td>
<td>0.80</td>
<td>0.71</td>
<td>0.50</td>
</tr>
<tr>
<td>Usefulness (1-5)</td>
<td>3.43</td>
<td>3.64</td>
<td>3.83</td>
<td>4.20</td>
<td>3.50</td>
<td>3.60</td>
<td>3.85</td>
<td>3.33</td>
</tr>
<tr>
<td>Higher grade (1-5)</td>
<td>4.00</td>
<td>3.82</td>
<td>3.67</td>
<td>4.40</td>
<td>3.42</td>
<td>4.00</td>
<td>3.68</td>
<td>3.67</td>
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<td><strong>Two Stage Dividend Growth Model</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Played &gt;1 (0 or 1)</td>
<td>0.71</td>
<td>0.82</td>
<td>0.67</td>
<td>1.00</td>
<td>0.50</td>
<td>1.00</td>
<td>0.62</td>
<td>0.50</td>
</tr>
<tr>
<td>Stop or replay portion (0 or 1)</td>
<td>0.86</td>
<td>0.82</td>
<td>0.67</td>
<td>0.80</td>
<td>0.67</td>
<td>0.80</td>
<td>0.59</td>
<td>0.50</td>
</tr>
<tr>
<td>Usefulness (1-5)</td>
<td>3.57</td>
<td>3.82</td>
<td>3.67</td>
<td>4.00</td>
<td>3.33</td>
<td>4.20</td>
<td>3.85</td>
<td>3.50</td>
</tr>
<tr>
<td>Higher grade (1-5)</td>
<td>3.86</td>
<td>3.82</td>
<td>3.67</td>
<td>4.00</td>
<td>3.42</td>
<td>3.80</td>
<td>3.74</td>
<td>3.50</td>
</tr>
<tr>
<td>In-class not required</td>
<td>2.71</td>
<td>2.45</td>
<td>1.83</td>
<td>2.40</td>
<td>2.50</td>
<td>2.60</td>
<td>1.85</td>
<td>2.83</td>
</tr>
<tr>
<td><strong>Performance</strong></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Related Question</td>
<td>60</td>
<td>82</td>
<td>87</td>
<td>72</td>
<td>87</td>
<td>72</td>
<td>82</td>
<td>90</td>
</tr>
<tr>
<td>Final Exam (comprehensive)</td>
<td>78.00</td>
<td>78.55</td>
<td>77.00</td>
<td>67.20</td>
<td>82.08</td>
<td>85.80</td>
<td>86.62</td>
<td>79.33</td>
</tr>
</tbody>
</table>

Figure 1: Probability distribution of primary intelligences among domestic and international students

Table 4: Average use, perceived usefulness and test scores by primary learning style.
It is interesting to compare the actual performance of students characterized by the various primary learning styles, relative to their use and perceived usefulness of the VSC modules. Although the individuals with a visual learning style tended to indicate the least use and, perception of usefulness of the videos, they had the highest average score (90%) in terms of the directly related question on the exam. In addition their comprehensive exam scores (79.33%) were somewhat in the middle ranking of the learning styles. Consequently they exhibited the greatest difference in terms of their superior performance on the related question, compared to their overall exam performance. The existentialist and kinaesthetic learning styles also exhibited relatively high performance on the directly related exam question (87% in both cases), with the existentialists, similar to the results for visual learners, exhibiting high relative performance on the related question compared to the overall exam score (87% versus 77%). Again it is interesting to note that individuals in these two categories also tended to indicate the least amount of use and placed lesser perceived value on the modules than did students of other learning styles.

In contrast, students with the lowest average performance in terms of the directly related question were those identified with the naturalist (60%), interpersonal (72%) and linguistic (72%) learning styles. The scores of the naturalist and linguistic style learners, on the directly related question, were also lower than their scores on the comprehensive exam (78% and 85% respectively). The interpersonal style learners exhibited the lowest average score (67%) on the comprehensive exam. These students however, tended to record the higher average responses in terms of their use and perceived value of the VSC modules.

### Learning Styles

Testing the statistical significance of the above results is somewhat challenging given the relatively low number of participants involved in the study and the number of attributes studied. Although several multivariate approaches (available from the author) such as factor analysis were attempted on the raw survey data the results, were inconclusive. Instead a contingency table approach was adopted to test whether the results obtained for any one learning style were statistically different than those obtained for the remaining styles. This allowed for the grouping of data and consequently an increase in observations and resulting power in the test statistics.

With respect to the use of the videos, the responses by learning style to the questions of whether or not the videos were played more than once and/or a portion stopped and replayed, were aggregated across both VSC module topics and reported in Table 5 below. In addition the Yates’ chi-squared statistic is reported whereby each learning style is tested for significant difference in responses compared to the aggregate of the remaining styles. The results indicate that the linguistic learners tended to exhibit a statistically significant higher use of the VSC module than others and, the visual learners a statistically lower use.

### Table 5: Responses to questions as to whether the VSC modules were played more than once or a portion of the module stopped and replayed.

<table>
<thead>
<tr>
<th>Learning Style</th>
<th>yes</th>
<th>no</th>
<th>Yates’ chi-squared statistic</th>
<th>p value</th>
</tr>
</thead>
<tbody>
<tr>
<td>naturalist</td>
<td>12</td>
<td>4</td>
<td>0.148</td>
<td>0.6995</td>
</tr>
<tr>
<td>logical</td>
<td>32</td>
<td>12</td>
<td>0.392</td>
<td>0.5312</td>
</tr>
<tr>
<td>existential</td>
<td>16</td>
<td>8</td>
<td>0.019</td>
<td>0.8904</td>
</tr>
<tr>
<td>interpersonal</td>
<td>17</td>
<td>3</td>
<td>2.190</td>
<td>0.1389</td>
</tr>
<tr>
<td>kinaesthetic</td>
<td>30</td>
<td>18</td>
<td>0.395</td>
<td>0.5297</td>
</tr>
<tr>
<td>linguistic</td>
<td>18</td>
<td>2</td>
<td>3.890</td>
<td>0.0485*</td>
</tr>
<tr>
<td>intrapersonal</td>
<td>87</td>
<td>49</td>
<td>1.029</td>
<td>0.3104</td>
</tr>
<tr>
<td>visual</td>
<td>12</td>
<td>12</td>
<td>2.790</td>
<td>0.0948*</td>
</tr>
<tr>
<td>Total</td>
<td>224</td>
<td>108</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Significant at the 10% level

In order to test for significant differences between the responses to questions on the value of the modules, the 1 to 5 scoring of the questions with respect to the perceived value and whether a higher grade would be achieved through their use, was converted to a yes/no response. A score of 4 or 5 (agree or
strongly agree) on the part of a respondent was coded as a yes, and scores of 1 through 3, as a no. Table 6 provides the results of aggregating the responses across both questions and for both VSC module topics, as well as the chi-squared statistic for the test of differences in response between a particular learning style and all others. The results in Table 6 indicate that only the interpersonal learners exhibited a significantly stronger view as to the value of the modules.

Table 6: Responses to questions as to whether the VSC modules were useful and whether they would be of value in achieving a higher grade.

<table>
<thead>
<tr>
<th>Learning Style</th>
<th>yes</th>
<th>no</th>
<th>Yates’ chi-squared statistic</th>
<th>p value</th>
</tr>
</thead>
<tbody>
<tr>
<td>naturalist</td>
<td>11</td>
<td>5</td>
<td>0.002</td>
<td>0.6943</td>
</tr>
<tr>
<td>logical</td>
<td>29</td>
<td>15</td>
<td>0.002</td>
<td>0.9643</td>
</tr>
<tr>
<td>existential</td>
<td>17</td>
<td>7</td>
<td>0.155</td>
<td>0.6938</td>
</tr>
<tr>
<td>interpersonal</td>
<td>17</td>
<td>3</td>
<td>2.847</td>
<td>0.0915*</td>
</tr>
<tr>
<td>kinaesthetic</td>
<td>27</td>
<td>21</td>
<td>1.49</td>
<td>0.2222</td>
</tr>
<tr>
<td>linguistic</td>
<td>12</td>
<td>8</td>
<td>0.061</td>
<td>0.8049</td>
</tr>
<tr>
<td>intrapersonal</td>
<td>89</td>
<td>47</td>
<td>0.015</td>
<td>0.9025</td>
</tr>
<tr>
<td>visual</td>
<td>14</td>
<td>10</td>
<td>0.245</td>
<td>0.6206</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>216</td>
<td>116</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Significant at the 10% level

Conclusion
The present study has attempted to ascertain the value of VSC modules for teaching financial mathematics concepts in an introductory MBA Finance course, both in terms of their perceived value on the part of course participants as well their actual performance. In addition the impact of learning styles, as defined by Gardner’s multiple intelligences has been examined on perceptions and performance. The study been carried out in the context of a domestic student cohort and an international student cohort having a somewhat lower level of English language proficiency.

In general the results indicate that domestic and international students were not significantly different in terms of their perceptions of the usefulness of VSC modules although the actual use of the modules appears to have been significantly higher on the part of international students. This result indicates that VSC modules may be of particular value to international students in terms of comprehension. Although there was little support for the replacement of in-class instruction with VSC modules on the part of either domestic or international students, a significantly greater proportion of international students indicated support for doing so. These results were not dependent upon prior experience with on-line courses or the extent of use of the modules and may indicate the lower value that in-class presentation has for international versus domestic students.

The results with respect to learning styles are somewhat perplexing, and indicate the need for further research. In general individuals exhibiting a linguistic or interpersonal learning style appeared to use the VSC modules the most, and at the same time, appeared to place the greatest value upon their usefulness. This was statistically significant in the case of the higher use on the part of linguistic learners and, perceived value on the part of interpersonal learners. The opposite was true of visual and kinaesthetic learners; however, the average performance of the visual and kinaesthetic learners with respect to related test material was the highest of the different learning styles. Conversely the linguistic and interpersonal learners were among the lowest.

The results of the above study are preliminary however. Although learning styles have attempted to be addressed, several other factors have not been controlled for in the study such as metacognitive (critical thinking) abilities (Tempelaar, 2006) motivation and goal orientation (Grant & Dweck, 2003) as well as attitude towards the subject (Tempelaar, 2008). Including metacognitive, goal and attitude inventories in the survey design would however require a much larger sample. The obvious lack of a control group also casts doubt on any interpretation of relative performance on actual test material. Finally many inventories of learning styles exist in the literature or are available in the public domain, particularly...
with respect to Gardner’s multiple intelligences. The inventory employed in the current study was chosen for its relatively succinct size; however, assessment of the effectiveness of various learning style inventories requires some attention. In addition, cultural differences and language barriers may also impact the effectiveness of such inventories when international students are among the survey participants as in the current study.

References
Educating evidence based managers: encouraging learning with a hospitality industry partner”

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Abstract: This paper offers a conceptual model of the educational frameworks underlying commissioned capstone projects on an MBA course in International Hospitality Management. Three separate but related concepts underlie the projects discussed a) action research (Lewin 1946; Revans 1982; Dickens & Watkins, 1999), b) problem based learning (Siok San Tan & Ng, 2006; Laughton & Ottewill 1998) and c) appreciative inquiry, (Cooperrider & Sekerka 2006). These concepts are used to construct a model that looks at the relationship between the industry and academic partners in such ventures.

Introduction

This paper considers the educational basis of a capstone Applied Research Project (ARP) on an MBA course in International Hospitality Management. The ARP scheme pairs groups of students with hospitality managers working for a major hotel chain to work together on the collection and analysis of evidence on contemporary business issues with the opportunities for continuing learning and development for all parties: the students, the academic institution and the partner business organisation. In this paper, we offer a conceptual model to describe the relationship between the academic organisation and the industrial partner in these ARPs.

Commissioned projects such as these ARPs are gateways where students can demonstrate their ability to apply their academic discipline to a real time problem in an organizational setting, work in a team with designated managers on work based problems. Past commissioned projects within the hospitality sphere (Ball 1995) are suggested to have benefited key stakeholders; students, tutors and clients and they demonstrate a trend in educational contexts to link with industry partners. Such schemes allow ‘the company to become an active participant in the research process rather than being merely a consumer’ (Sas 2005 p, 714). These ARP projects with a stable partner also enable the academic institution to continually build on operational and theoretical knowledge and expertise. Laughton and Ottwil (1998) suggest such projects ‘are not for the “faint hearted”...they are extremely challenging enterprises ... To be successful, projects require conditions in which certain educational values prevail and various pedagogic principles are embedded in the way that courses are designed and delivered.’ (Laughton & Ottwil 1998).

Literature Review and Model

Three separate but related concepts are seen as particularly pertinent to exploring the learning frameworks behind such educational projects; action research, problem based learning, and appreciative enquiry. These are described below, followed by a brief description of the ARP scheme, and finally the relationship of the main theoretical concepts to the ARP projects is displayed in an academic model (Fig.1).

Action Research

Action research (Lewin 1946; Dickens and Watkins, 1999; Realin, 2006) is a concept which supposes that people learn most effectively on authentic problems arising in their own contexts. Raelin (2006) states in action learning, learning results from the independent contributions of programmed instruction and spontaneous questioning. This contributes to the material that participants already have had through instruction, coursework, or lectures, so participants have some prior knowledge and skills before being given a real-live project in their work settings, by doing this project and by spontaneous questioning, investigation, and experimentation, they improve their skills and knowledge and this results in behavioural change. These interpretations from the participants are helped and improvements are made by feedback from other participants and by a skilled instructor, actions taken are subject to enquiring about how effective the theory was at the beginning and how the theory was put into practice (Raelin, 2006). Students involved in action research are seen to benefit through shared learning, gaining greater self confidence and
self awareness and to demonstrate the ability ask better questions, be more reflective and show improved communication and feedback (Smith, & Clark 2010).

Problem based learning (PBL)
Problem based learning (PBL) is an educational framework originally arising from medical education contexts (Albanese and Mitchell 1993) that exercises students’ cognitive and behavioural responses when they are engaged with real life ‘messy problems’ (Barell 1998). Stinson and Milter (1996) suggest certain principles underlie the accomplishment of problem-based learning: learning outcomes should be holistic; problems should mirror professional practice; and problems should be ill structured and contemporary. Usually carried out in groups, such learning is also advocated in management studies (Siok San Tan and Ng, 2006; Laughton and Ottewill, 1998) where students engage dynamically (Wee & Kek, 2002) with issues that may have no clear or coherent resolution...no ‘easy’ answer. In their study of commissioned projects in business education, Laughton and Ottwil (1998) suggest that the method of instruction that employs commissioned projects can be seen as a form of problem-based learning in that a) student learning occurs by students being challenged by situations needing to be solved b) Active involvement of students learning in the context of where knowledge is to be used c) such projects promote “learning by doing”. So in a problem-based learning framework, practical problems are seen to stimulate and inspire a succession of learning experiences in line with projected skills at Masters level (Yeo 2007b).

Appreciative inquiry
The third concept of importance in the conceptual model is appreciative inquiry (Cooperrider and Sekerka, 2006). Appreciative inquiry can be described as an alternative to problem solving based in social constructionist theory. This is considered as a pertinent and useful theory to describe the process of the interaction by the industry partner in the ARP’s who are seen to take on the four stages of discovery, dream, design, and destiny (Cooperrider, Whitney, & Stavros, 2003) in the practical application and/or execution of such projects leading to renewal and continuation of collaborative projects. In the first ‘discovery’ phase, interviews are held seeking to draw out positive elements from the core by the stakeholders. Next is where people start to come together sharing their vision of a better world these then form in their vision...the ‘dream’ phase. Starting then toward greater purpose, they start to envisage a productive community, in the ‘design’ phase once the dream is in place. In the fourth phase destiny ownership to the delivery of the design is invested in the stakeholders and become new benchmarks and starting points for new initiatives. Appreciative inquiry techniques can involve the whole organization, departments, as individuals working together to look deeper into what they value most, stemming from local issues and expanding outward to bigger issues (Cooperrider & Sekerka, 2006).

Background to the Applied Research Projects
The applied research projects described in this paper have taken place over the last three years in collaboration between a major hotel chain based in Switzerland and the Graduate school MBA program of a Swiss academic institution. The Applied Research Project is a capstone project where students have the opportunity to demonstrate key Master level learning outcomes. Students work with industry professionals to propose solutions to real life, real time problems using qualitative and quantitative investigation. Topics studied are labelled by the partner as ‘useful to know’ rather than a “business risk”. Students follow action research guidelines on a nominated project over 9 months. They then submit a graded management report to the industry partners and decision makers. Students develop their individual contribution into a graded individual management report.

Aims and objectives for each project are established by the industry partner in consultation with responsible Faculty. Academic goals are established by the institution and understood by the industry partner. ARP topics have included e.g.: Employee Recognition programs; Performance Management systems; Internal Branding; Cloud Computing Applications in Hospitality; Social Media and Social Networks in the Hospitality Industry. The industry partner has so far been able to provide sufficient projects to meet demand and there has been a steady rise in participation from 2008 when 2 projects were offered involving 6 students to 2010 when 6 projects involving 18 students were offered. In all 36 students and 6 faculty have been involved.
The Model

The three concepts outlined above are portrayed in the model below to demonstrate underlying theoretical inputs of the student commissioned project (ARP) scheme. The model is portrayed as a double helix, to indicate continuous learning. One single helix suggest the Academic institution’s inputs and outputs based on problem based learning concepts and action research, the other helix displays the industrial partners inputs and outputs based on appreciative enquiry.

Cycle 3
(Action research, PBL)
Engage, question, Define, analyse, Plan, intervene, Monitor, reflect, synthesize, re-engage

Cycle 2
(Action research, PBL)
Engage, question, Define, analyse, Plan, intervene, Monitor, reflect, synthesize, re-engage

Cycle 1
(Action research, PBL)
Engage, question, Define, analyse, Plan, intervene, Monitor, reflect, synthesize, re-engage

In common with all action research, the ongoing nature of learning and development for both partners is portrayed in the model. On the academic partner helix each annual cycle (corresponding to a student cohort and project group) contains the process elements taken from action research, problem based learning and appreciative inquiry. It uses a synthesis of concepts involved in these three theories, well documented in literature of the theories, that are described in the model as: engage (Laughton & Ottewill, 1998; Yeo, 2007a); question (Wee & Kek, 2002); define (Edmonstone, 2002); analyse (Wee and Kek, 2002); plan (Wee and Kek, 2002; Yeo, 2007b); intervene (Lewis, Passmore and Cantor, 2008); monitor (Laughton & Ottewill 1998), reflect (La Rue, Childs, & Larson, 2004; Raelin 2000), (Wee and Kek, 2002), Synthesize (Laughton & Ottewill, 1998, Wee and Kek, 2002); re-engage (Lewis, Passmore & Cantore, 2008). However, all these elements may not be contained within single student cohorts’ projects. Most cycles will contain some projects involving the elements of engage, question, define, analyse, plan while others will pick up on previous projects to monitor, reflect, synthesize, re-engage. On the industry partner helix each annual cycle corresponds to a set of projects and their processes are described by the appreciative inquiry model to incorporate elements seen to offer a reflection of business practice (notably the phase of ‘delivery’). Similarly, most cycles will contain some projects involving the elements of ‘discovery and dream’ while others will pick up on previous projects design and destiny as the industry partner implements initiatives to be monitored in later projects. As a social constructivist theory, rather than portraying a rigid linear process, appreciative inquiry allows for changes in perception for the industry partner as the helix unfolds over a number of projects. In this way outputs form the central spine of the helix, continuing to inform future development. On the other hand, some outputs have a limited life and specific purpose and are not pursued over time, although continue to add to the input of collaboration for both partners.
Inputs on the industry partner single helix include past collaborative relationships with the academic partner, new ‘messy’ problems to be researched that fall into a ‘useful (not crucial) to know’ category, data, and management support for the projects. Inputs on the academic partner single helix include past collaborative relationships with the industry partner, research expertise, previous analysis of pertinent problems with the partner and Faculty support for the projects.

Outputs on industry partner single helix appear to include presentations on completed project analysis, assessment and recruitment activities, practical business solutions, organisational change, informal consultancy and networking. Outputs on the academic partner single helix for the institution seem to be research studies, student placement, subject knowledge enrichment, curriculum relevance, industry updating and networking. For students, outputs appear to consist of enhanced student reflection and synthesized learning, (Powers and Tiffany 2006; Goto, Pelto, Pelletier, & Tiffany, 2010) employability and networking (Smith, & Clark 2010; Dickens & Watkins, 1999; Barthorpe & Hall, 2000; Gagnon, & Smith 2001).

Conclusions and recommendations for further research

The ARP scheme is currently 3 years in operation and the experiences of students and faculty have contributed the model constructed so far. The model is still in development, particularly in terms of constructing an audit of inputs and outputs. Some research in these areas has already been carried out either conceptually or with small samples. Gagnon and Smith (2001) argue that experiential educational techniques which could include students working with an industrial partner on a project could enhance student learning attitudes, initiative and achieve higher levels of learning; offer business and students the concrete learning experience they prefer and which reinforces classroom principles; expose students to adult professionals and their problem orientated focus and challenge students social and communication skills and the ability to independently think. Further research is required on these aspects of outputs in the model together with new insights into inputs and additions to returns on the educational and industry investment.

References


Survival Lessons: Academic Continuity, Business Continuity & Technology

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Abstract: Business organizations have had to deal with disasters that challenge their ability to maintain or restore business due to disruption or threats to normal operations. Ensuring that ‘essential functions’ and ‘mission-critical services’ continue is critical to survival. Academia has also been affected by similar disruptions, particularly in the past decade; however, there appears to be much less attention to continuity issues although educational closures can last from days to months impacting students, instructors, staff and the community. Technological developments—such as text alerts, e-learning, Skype—now offer opportunities for educators to apply lessons from business for academic continuity. Examples in higher education and the literature on organizational continuity provide the basis for the argument that providing ‘crème de la crème education’ necessitates attention to maintaining continual access to teaching and learning—academic continuity—and that much like business continuity processes, technological developments are integral to this survival.

Introduction
Whether the challenge comes from snowstorms, hurricanes, H1N1 virus, strikes, oil spills or war, the concern for survival is an integral part of the business profession (Business Continuity, n.d.) This concept of survival, also called continuity of operations (COOP) or business continuity, refers to an organization’s “ability to maintain or restore its business...when [normal operations have been] threatened or disrupted...” (Pirani, J.A. and Yanofsky, R 2008). The key feature of COOP is the need to ensure that “essential functions can continue during and after a disaster... [including] the prevention of mission-critical services interruptions, and the ability to [restore] full functionality as quickly as possible.” (Ensuring business continuity, p 3; italics)

Higher education has been affected by similar challenges particularly in the past decade, but there appears to be much less attention to continuity issues although educational closures can last from days to months impacting students, instructors, staff and the community (e.g. Hurricane Katrina in 2005 USA). Technological developments—such as text alerts, e-learning, Skype—now offer opportunities for educators to apply lessons from business for academic continuity: “the process of maintaining continuity of learning in a crisis situation...; the extent to which operations can be sustained which enable affected students to continue their academic studies during the response, aftermath, and recovery phases despite the disruption caused by the crisis.” (Academic Continuity, n.d.) Academic continuity represents a commitment on the part of educational officials to provide opportunities for students and instructors to remain engaged in their education despite external disruptions.

Shouldn’t attention to continuity also be part of the higher education community? As the above suggests, the answer is YES! The “essential function” of education is teaching & learning; its “mission-critical services” are those which enable operation of that function (such as communication, registration, tuition collection, expenditures for salaries and supplies, etc.); the ability to “restore...full functionality” involves a variety of operational and IT- business components, as well as security and safety (particularly since the 2007, 2008 campus shootings in the USA).

This paper argues that providing ‘crème de la crème education’ necessitates attention to maintaining continual access to teaching and learning—academic continuity—and that much like business continuity processes, technological developments are integral to this survival. An examination of the literature on organizational continuity and specific examples in higher education will be the primary approach to this discussion.

Business Continuity
Business continuity management (BCM) is the “process intended to support organizations in building resilience...to recover key activities quickly...in order to minimize organizational impacts and protect key stakeholders” (Elliott, Swartz and Herbane, 2010 p2). Naturally, the business concern focuses on retaining customers and maintaining services, particularly when confronted by a disaster such as hurricane or
snowstorm. A mid-2000 USA government report, for example, indicated that 40% of all companies that experienced a disaster did not re-open (Curtis 2008 p 38). In an environment where even brief interruptions could halt regular activities, “responding effectively to such circumstances can be the difference between a modest interruption and a severe blow to the institution’s viability, providing powerful financial incentives to optimize [business continuity] readiness.” (Pirani and Yanosky 2007).

Discussions about COOP are connected to a three stage continuum, adapted from the emergency management model: preparation/planning→management/response→recovery. (Chrichton, Ramsay & Kelly 2009; Chandra et al. 2010 p 3). A recent pilot study of Business Continuity Management (BCM) revealed that the academic and professional literature’s emphasis is on the preparation stage, regardless of the probability-consequence options such as: low probability-low consequence; low probability-high consequence; high probability-high consequence; high probability-low consequence. (SchWeber & Bouchard, 2011; Crichton, et.al, 2009) Attention to this early stage is a characteristic of what have been called HROs--‘high reliability organizations’ (Weick and Sutcliffe, 2007 p1). This involves creating a culture of continuity (Comfort, 1994, p 157; Boin & Lagadec 2000; Brazeau 2008; Curtis 2008). This would seem logical, n’est-ce pas?

In the management/ response stage in particular, several related principles associated with resiliency have been noted in supporting the ability to manage in conditions of uncertainty:

- Ability to make ‘decisions in unfamiliar contexts’: due to the unknown nature of future alternatives, “only by going forward it is possible to know what the options are for going further forward” (Winter, 2005 p 526)
- Developing organizational “agility: the ability to manage the speed and direction of change” particularly in the use of IT. (Ekmekci & Bergstrand p 20)
- Practicing *bricolage*: creatively developing solutions out of existing conditions (Weick, 1993 p 12-13)
- Leveraging existing resources to obtain additional support (Mallek, 1998 pp 5-7)

Technological continuity is integral to organizational survival today, whether in business or higher education. Indeed, BCM originated in the need to protect and preserve information systems and now also includes a strategic focus (Elliott et al, p1-4). The discussion of continuity in higher education below and the cases provide three examples of how preparation and response enabled the teaching-learning process to survive.

**Academic Continuity**

Since teaching and learning is a core function of higher education, a culture of continuity would mean that the institution “has internalized continuity management to the extent that all strategic decisions...are made with a view towards making critical enabling processes resilient from the beginning.” (Brazeau 2008 p 28).

**Centre national d’enseignement distance [CNED]**

An early example of academic continuity is the establishment of what was to become the *Centre national d’enseignement a distance* [CNED] (Bourrel 2003) by the French government in December 1939, more than seventy years ago, just three months after WWII was declared. CNED’s pioneering development was to quickly develop an alternative to their face to face classes by providing correspondence courses as a temporary measure during the war, adapting the content, methods and instructors that had been used in onsite programs. (Bourrel p10). The creation of CNED in December 1939 reveals thinking and action in keeping with the above principles. After war was declared 3 September two education ministers, one of whom was the finance director, approached French President Albert Lebrun with the plan to create an alternative to the onsite education program because war conditions made it impossible to continue standard operations. The alternative they recommended was learning by correspondence. The evacuation of populations, including thousands of students, to the south of France since September 1939; the transfer of educational centers to military and related purposes so that they were no longer available or safe for learning; the loss of a high proportion of teachers who had been drafted—all of these developments provided the context for the plan and the rationale for action. The 1939 ministers’ plan built on almost a century of varied successful distance learning experiences in Europe, Canada, and United States with education by mail, radio, international couriers which were known to the French authorities (CNED, pp. 5-8). The French government approved the plan 2 December 1939, authorized funds for central office staff,
materials, student funding, and a correspondence education director. The director, a man with experience in France’s radio education, was hired in February 1940. (CNED, pp. 9-11) CNED’s actions reveal an organization agile enough to quickly leverage existing resources such as curriculum and teachers, plus the political connections to move forward without knowing all the options, like the bricoleur using the tools at hand. The educational program was to replicate the courses and methods that had been in place, using as many of the teachers as possible to create:

correspondence education which would follow the same curriculum, the same methods and [be] given by the same teachers as in the existing educational system. (CNED, p 10)

In the 21st century technology is a key feature of academic continuity planning and response, as well as recovery. In 2008, the potential for massive absenteeism, illness or deaths due to the impending H1N1 virus resulted in attention to continuity planning for higher education and as well as business. In February 2008, the French government produced a draft plan that included use of technology for continued learning—‘continuite pedagogique’—through universities which are part of the digital environment – ‘universites numeriques’: required that all students supply their email addresses upon application to study and assumed that instructors were digitally literate. The French plan included using radio, television, as well as the internet. (Ministère, 2008 pp 10-12).

In the USA, many higher education institutions developed continuity plans in anticipation of the pandemic flu of 2008-9. A recent study of the H1N1 plans of 20 USA universities focused on the role of IT in their business continuity plans from an organizational agility perspective. The study revealed that the role of IT extended beyond infrastructure support, to include services such as conversion of face-to-face classes to web-based courses, creating back-ups using media such as audio recordings, establishing communication protocols, developing student readiness instructions, creating faculty training workshops and providing additional support services. (Ekmecki and Bergstrand, 2010). Both the French and USA plans had much in common: broad communication to stakeholders before and during any disruption, identification and testing of varied alternative media; preparation by faculty, students; assessment of IT capabilities and staff assignments.

Two recent events reveal the ability of USA higher education institutions to be agile and to apply technological tools when faced with disaster: fall 2005, when Hurricane Katrina hit the southeastern USA, particularly the New Orleans area; summer 2006, during the war between Lebanon and Israel. In both of these instances, advance preparation was in place which enabled classes to continue in varying degrees by actions on the part of the originating educational institution using varied technology: in New Orleans, Xavier University provided online coursework and ongoing communication; in Lebanon, Empire State College used varied distance learning activities and email communications with its students in the Lebanon Residency Program.(SchWeber,2008 pp 3-5).

**Xavier University and Hurricane Katrina, Summer 2005**

Hurricane Katrina involved the ongoing development of an academic continuity operation at Xavier University in New Orleans in fall 2005. Using the online courses in the *Sloan Semester* database, students from Louisiana and Mississippi colleges were able to continue their education regardless of where they had gone for safety. The *Sloan Semester* project was a unique electronic partnership among higher education institutions, the Southern Regional Education Board (SREB) and the Sloan Foundation in which institutions throughout the country contributed free online courses to a central repository providing students in the affected areas with a choice of 1348 courses. The partnership essentially established a virtual institution in 21 days! The SREB Electronic Campus was the web portal of online courses from 153 US colleges and universities. SREB infrastructure was the online backbone for the *Sloan Semester* students to select and participate in credit-bearing courses. (*Sloan Semester*)

Using these courses and other mechanisms, Xavier was able to recover sufficiently to re-open January 17, 2006 for the spring term, with approximately 75% of the original fall 2005 enrollment (3091 students). (Xavier University n.d.) By fall 2007, freshman enrollments had increased again to 50% more than fall 2006, suggesting recovery was in place. (SchWeber, 2008 pp.4-5; Xavier University April 2006)

Xavier’s recovery was affected by three factors: first, about 40% of the returning spring semester students had enrolled in coursework at other campuses or online in fall 2005; of these, one-third (418) took
one or more courses through the Sloan Semester Program. This number was substantially more than at any other Louisiana or Mississippi institution. (Sloan Semester; Xavier University June 2006; SchWeber, 2008). Second, Xavier was technologically prepared. Back-up tapes were housed at a data storage facility rather than in a nearby building, as was the case with some local institutions. An emergency web site in California had been established in May 2005, three months before the storm. Third, Xavier had established a communication partner with a sister institution in Ohio, which provided the early technology linkages. As a result, Xavier implemented various communication paths quickly, enabling ongoing information about developments beginning in October 2005, including bi-weekly online reports about renovation details, photos of progress with the campus clean-up, interviews with students “eager to return”, emails with students and their families, progress towards the intended January 2006 re-opening, class schedules for those needing to repeat fall semester coursework, reports on fundraising and repair plans, details of registration procedures, spring semester information and more. The preparation evidenced in the second two factors was due, in part, to the work of Catherine Lewis, the Vice President of Technology Administration, who had joined Xavier from IBM just four months earlier. Knowing that hurricanes were a high probability-high consequence event in the New Orleans area, she applied some of the prevention strategies she had learned in her business experience (personal communications with the author, September-December 2006).

Empire State College and the war in Lebanon, 2006

In summer 2006, war was the impetus for a crisis response that exemplifies academic continuity management. During the war in Lebanon, Empire State College (ESC) in New York had to move quickly to develop and implement an alternative to their annual onsite residencies with the American University of Technology and the American University of Science and Technology. These programs were headquartered in Lebanon as part of junior and senior year Bachelor of Science degree, and students from other Middle East institutions also participated. The courses were online and a ten day onsite residency with US faculty. Since there were typically 200-300 students and 20 faculty per semester, this was an important part of ESC’s offerings.

When war broke out in the summer 2006, ESC realized that faculty could not travel to Lebanon for the fall residency and that all students could not gather together at the two facilities. To enable the courses and learning to continue, ESC created a ‘virtual residency’ using multimedia and videotaping faculty; burning DVDs of the faculty lectures and shipping the DVDs to the two Lebanese universities; frequently communicating with students and Lebanese university administrators. Local students viewed the videos at the two partner institutions; those outside of Lebanon received individual copies. In-depth interaction was supported /supplemented by email, chat, and telephone. Thus, the Lebanon program was able to continue in fall 2006 and beyond. ESC’s recovery from the war environment and the quick change from the onsite-residency model to the technology-based model is likely due to several factors: they moved quickly to work with their educational partners to establish a home base for the alternate learning mode (DVD); their experience with technology, in the form of online courses for other programs, meant that students and faculty were comfortable with technology-based learning; this comfort level also enabled the transformation of the face-to-face learning to DVD lectures by the instructors; they developed and implemented an effective communication system using established channels and opening some new ones. (SchWeber, 2008 pp.3-4)

Empire State College’s (ESC) actions are another example of academic continuity management and the application of resiliency principles: Once war was imminent, ESC was agile enough to make decisions quickly, allowing for problem solving and monitoring by the regional director, which also enabled them to continue to move forward; solutions were built upon existing knowledge and experience with varied distance learning tools; faculty transformed their standard teaching mode, leveraging these existing resource; in this uncertain environment, communication with students and partner institutions was continual and allowed for adjustments.

Designing for survival and continuity

In the business community, a key outcome of continuity management is called the ‘Design for Resilience.’ This means that “an organization has internalized continuity management to the extent that strategic decisions...are made with a view towards making critical enabling processes resilient from the beginning.” (Brazeau, 2008 p 28). For higher education the equivalent is designing to survive the disruptions. Such
plans could be adapted to short term events (such as snowstorms, transit strikes) or long term ones (such as
tornados, volcanic eruptions).

What are some components of an academic continuity system? The most frequently identified
components are communication with all stakeholders; continuation of learning via varied media (web,
television, DVDs, radio, etc); instructor readiness; student readiness; infrastructure support; and well-
known institutional policies and practices. (Academic Continuity; Ekmekci & Bergstrand 2010)

Accomplishing such a cultural mindset for the varied global higher education institutions leaves
questions—both practical and analytical—which offer opportunities for further research, such as those
dealing with:

- the regulatory environment: how do national or local regulations affect the development
  of an environment for continuity and the decisions about how to proceed and which
  educational institutions are involved (e.g., can one university have no plan and another
  have a plan in the same state or province)?
- Stakeholders: who are the key stakeholders, in the educational institution and the
  community, who need to be consulted and involved?
- Technology infrastructure: what technological skills and support are needed; where
  should back-up systems be deployed; what are the associated costs and staffing?
- Leadership: how might case analyses of effective and ineffective response and recovery
  provide evidence of leadership decision-making and its role in enabling or preventing
  agility and survival in the face of disruptions? Given the role of the media in reporting
  about disasters, what ‘reputation management’ strategies need to be part of a continuity
  plan?
- The role of risk-benefit thinking: What is the relationship between the perceived
  probability of the event, the potential consequences and the anticipated costs with respect
  to planning and action? For example, would institutions be more or less likely to develop
  and finance a plan if the probability is low and consequences are low but the cost is high
  or cost is low; if the probability is high and the consequence is low and the cost is low;
  the probability is high the consequence is high and the cost is high? One example of such
  thinking was the 1994 Ford Pinto case in the USA, in which Ford Motor Company
  executives decided not to replace a defective fuel system design; the replacement would
  have cost US$11 per car and which their estimates suggested would result in 180 fewer
deaths, 180 fewer burn injuries and 2100 burned cars. Instead Ford calculated that
  payment for deaths and injuries would be $87.5 million less than the cost of design
  changes and therefore retained the defective fuel system. (Ford Pinto case)
- Cause and effect: what is the relationship between planning and recovery—“how strong
  is the causal relationship between continuity planning and effective response”? (Somers,
  2009 p 12) If not strong, what are the factors which affect the relationship? What might
cases of recovery without such planning indicate about the value of continuity planning?

Such work would add substantially to our knowledge about providing educational access in the 21st
century despite the challenges of disasters and crises.

The CNED, Xavier University and Empire State College examples above and the business
continuity-resilience literature place the four principles noted earlier in a larger context of creating a
‘culture of continuity’, which must be led by senior leadership. The ability to make decisions even when
the situation is unfamiliar and delegate action; to practice bricolage; to expand upon existing human, IT,
other resources; to be agile when faced with disruptions or disasters requires an educational organization
that has internalized these principles to the point that neither volcano ashes, massive flooding nor epidemic,
etc. can stop access to continued learning and teaching for long. Like the motto of the New York City
postal carriers that “Neither snow, nor rain, nor heat, nor gloom of night stays these couriers from the swift
completion of their appointed rounds”, the IT-continuity culture can be the courier of continued academic
access that cannot be stopped.

References


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Raising Ethical Awareness among MBA Students

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Abstract: The teaching and learning of Business Ethics is challenging for postgraduate management students, who often lean towards a pragmatic worldview which does not relate easily to idealistic concepts. However the MBA classroom can provide an invaluable location for enquiry, for social learning activity, and for critical reflection. Contemporary Business Ethics texts largely rely on classical ethical theories to frame and explore moral aspects of business, despite the strangeness of these theories to management - a discipline grounded in social sciences. We find at UWL that MBA students are often able to engage more readily with an ethical conversation which is grounded in psychological perspectives on moral reasoning, rather than on philosophical concepts. This paper summarizes the results of students’ feedback upon completion of a core Business Ethics module, which was delivered from a range of differing conceptual start points. The findings indicate that an adapted model derived from Kohlberg’s concept of ‘stages of moral development’ provides an accessible conceptual map for personal learning and ethical discourse, which allows students to test and appraise different ways to frame questions concerning ethics at work.

Introduction

It is increasingly recognized that if companies act responsibly (McEwan et al, 2003) and develop competences in evaluating, discussing and communicating values, it will over time create customer loyalty, engage stakeholders, and enhance competitive advantage. Business schools (Mangan, 2006) are now learning from past errors of omission in previously delivering management education reinforcing the ‘myth of amoral business (de George 1999). The soul searching that followed the spate of corporate malfeasance which emerged around the millennium has led to substantive changes in curriculum design for business and management courses, and a recognition of the value of training managers to recognize and deal with ethics issues in the workplace (Trevino and Nelson 2007). Design is not delivery however, and it is a demanding task in practice to engage students to develop skills in moral discourse and critical reflection in the relatively short periods of time typically afforded to developing ethical awareness as part of a wider syllabus for a business or management course.

This paper looks at postgraduate business and management provision within these constraints, focusing primarily on an MBA degree at the University of West London (UWL), where our business ethics education is delivered by means of a separate core module on our MBA degree. We do not consider the incorporation of ethics training which is subsumed into other modules to be sufficiently rigorous to provide a foundation for ethical competence – ethics rather needs a specific focus to develop relevant skills in analysis and application to the business context, has a long history of enquiry, and its own distinct body of knowledge. Ethical discussion is a skill only effectively acquired by ‘doing’ - that is engaging in conversation and critical reflection about business conduct. It cannot be properly developed without first acquiring a degree of conceptual understanding and communicative skills in expressing and debating moral points of view about business or organizational situations, activities and decisions. Ethics as here defined conducts a discourse about morality, where morality concerns itself with decisions between the ‘good’ and ‘bad’. As such it is inevitably value laden, and the challenge for the student is to understand and critically apply frameworks and concepts which can explain and justify any value judgements made, and to conduct a meaningful discourse within which such judgements can be evaluated and discussed.

For UK based MBA degrees, students are by definition post-experience on initial enrolment, and therefore able to draw on previous real life examples of organizational and business conduct. With an appropriate approach to teaching and learning they can also benefit from the knowledge and experience of their peers as a social process guided by tutoring staff to facilitate to learning experience. Each MBA student arrives with prior exposure to challenges and dilemmas. Such ‘issues’ bring significant benefits to a cohort if students are able to share their own work based ethical challenges, and this results in enhancement to the collective learning experience. The seminar room becomes a learning laboratory where in relatively safe conditions problems and puzzles can be discussed - but in a limited timescale this has to be tutor guided, and the challenge is do achieve this effectively. Richmond and Cummings (2004) see the teacher’s
role as a moral guide, rather than an authority figure transmitting rules of behaviour which is the role that would be adopted using a traditionalist approach.

The teaching and learning strategy adopted is based on a ‘social constructivist’ (Renshaw & Brown, 1995) view of learning. In this approach, learning is seen as a social activity, which is interactive, co-constructive, self-regulated by group members and evaluates shared ideas and values. The emphasis is on what is happening to participants as learners, rather than on the teacher, and on participants’ interaction with their peer group and with circumstances, events, people and experiences. Through this interaction, participants gain a personal understanding of their own and others moral perspectives. Constructivism is based on the belief that there are many ways to structure the world (reality) and there are many meanings and interpretations of an event or a concept. For business ethics this is an appropriate - participants’ previous management and learning experience will influence the way future events and experiences have meaning to them. In a social constructivist curriculum the course tutor takes the role of one who creates and provides learning experiences and opportunities that facilitate the natural development of participants’ mental abilities through various paths of discovery. Learning is seen as much as a collaborative and social activity as one of personal critical reflection.

The workplace is the key location where learning is applied and where expertise is developed, but learning can also be developed with the help of skilled tutors and teachers. Learning and teaching are concerned with the development of participants’ professional knowledge and competence, and the approach we have taken relies on Enquiry Based Learning (EBL) (Kahn and O’Rourke, 2004). Tosey and McDonnell (2006) further develop the notion of the ‘process of enquiry’, stating that EBL is at best a process in which the learner has a significant influence on or choice about the aim, scope, or topic of their learning; AND attends intentionally to learns about, and is guided or supported in, the process of learning.

It is the tutor’s role therefore to provide enabling frameworks and to create a safe atmosphere for learning and reflection as a form of laboratory conditions are created where challenges, successes, and failures can be re-examined from differing perspectives. This is a valuable launch point for a personal and communal learning journey, as each participant is encouraged to reflect openly on actual dilemmas they have faced, and prepare for situations they may face in future.

**The Research Question**

There is a fundamental problem in the teaching the subject of business ethics as it stands to-day. We are for the most part delivering ethics courses as part of academic programmes, indeed the study of ethics from a philosophical perspective is arguably the founding original academic discipline. Contemporary philosophers, as ever, differ in their logic as to how to best analyze moral dilemmas, but are united in their belief that after centuries of rigorous study and critical thinking they must by now have developed concepts from which we can all learn (Goodpastor, 2002). ‘Business ethics in particular however, is a relatively young academic discipline in the UK, it has developed through drawing from and adapting perspectives and analytical frameworks taken from moral philosophy – indeed to a moral philosopher ‘business ethics’ is arguably simply another form of situational ethics where rigorous logic and appropriate perspectives can be applied to a specific entrepreneurial context. Some of these ideas go way back in time, and to this day Aristotle’s approach to virtue ethics has its champions in the field of Business Ethics (Solomon, 1993).

Our MBA students need to learn quickly and efficiently, while dealing with time pressures, but find that the rarified language and vocabulary of philosophical discourse takes time and effort to acquire and use effectively. Traditional classical approaches to ethics continue to largely dominate the field of business ethics, as can be readily seen in terms of the approaches taken by recent texts aimed at undergraduate and postgraduate students. This issue lies at the heart of the dilemma of teaching ethics to business practitioners.

Moreover, the moral philosopher is not necessarily interested in any form of empirical approach to the study of ethics – indeed what ‘is’ is by no means an indicator of what ‘should be’ – i.e. a normative approach. Moral philosophy therefore can be broadly characterized as taking an idealistic perspective, as it is more interested in examining how underlying principles can be brought to bear in the analysis of business situations and decisions. The trouble is that anyone who has tried to teach business ethics starting from abstract concepts of de-ontological or teleological principles will be well aware how quickly the eyes of students may become glazed and the attention distracted.

Tensions arise when pragmatic managers grapple with idealistic moral theories, but it is at least a problem that is to some degree moderated by different approaches to the subject. While normative ethics (‘top-down’) takes an idealistic approach, descriptive ethics seeks to better understand what is now, and
why individuals and situations differ. Descriptive (‘bottom up’) ethics derives from the social sciences, and has an entirely different epistemology and research paradigm to moral philosophy. The question arises as to whether it is possible to combine both approaches with such wide differences in their understanding of knowledge.

Ethical discussion works best if linked to actual conduct, i.e. developing a ‘praxis’, and ethically informed practice is self evidently the goal of ethics training and skills development. The academy is in a different position to professional bodies in that it has little or no leverage to enforce any form of adherence to an ethics code upon its graduates, but this is not necessarily a disadvantage as it can explore alternative perspectives unconstrained by operational requirements. Rather than being restricted to mechanistic compliance, issues and stances may be compared, and radical alternatives considered.

Ethics is historically a normative discipline - i.e. it is idealistic and inherently more concerned with what ‘should be’ as opposed to what is. Its effectiveness (or otherwise) derives from sound reasoning processes and application of relevant normative theories. The relatively recent development of descriptive ethics is a different branch of the discipline however, as it seeks to explain and understand differences between individuals and work situations as they actually exist. If the unique context of the workplace as a difficult if not hostile environment for ethical discussion, descriptive ethics does have a value for the MBA student who is likely to return to the workplace in a management role and therefore needs to understand how people think and behave, and also how managers are often able to significantly shape the behaviour of those they supervise, motivate, control and reward and whose careers they may promote, regulate, or terminate. Because it is evidence based, MBA students more readily initially engage with descriptive ethics.

The contemporary challenge in classroom delivery is to contextualize the relativism and subjectivity which suffuses our collective consciousness, and then to proceed to engage in an exchange of ideas and viewpoints which seeks to enlarge the participants’ personal understanding. To facilitate this, the aim is to develop a practical and accessible framework for ethical analysis and discussion starting from a process of reasoning sympathetic to managers, but which is also sufficiently rigorous to challenge business practice and stimulate personal reflection.

Developing a Theoretical framework

**Figure 1: Levels of CMD - Adapted from L. Kohlberg (1984)**

<table>
<thead>
<tr>
<th>Pre-conventional Level: Ego–centred reasoning</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stage 1: Right and wrong defined by expectation of punishment and reward</td>
</tr>
<tr>
<td>Stage 2: Instrumental self interest-seeks reciprocity in exchange</td>
</tr>
</tbody>
</table>

**Conventional Level – Group/Society centred reasoning**

| Stage 3: Individuals accord with expectations of peers and social groups |
| Stage 4: Consideration broadened to wider society’s laws & expectations |

**Post- Conventional level: Principles-centred reasoning**

| Stage 5: Upholds basic rights, values, and contracts of society |
| Stage 6: Universal principles of justice, fairness and equality |

In delivering a business ethics module, as the tutor I also found myself on a learning journey which was to discover how to best make ethics amenable and accessible to managers. The goal was to locate and disseminate ways of thinking critically, which are of value to practitioners, but which are also models and concepts sufficiently robust to structure analysis and evaluation. This has effectively become a form of action research (Reason and Beadbury2006). I discovered I was not the first to find that students participate more readily with ethical conversations by initially avoiding the avenues into critical discussion afforded through moral philosophy (Beerel, A (2006). Rather, by starting from more familiar territory, MBA
students engage with evidence based approaches to study. It was found that Lawrence Kohlberg’s (1982, 1984) empirical studies of moral reasoning intuitively makes sense to managers when introduced to the concept. In summary Kohlberg formed the view that moral development is as distinctly identifiable as psychological or physical development, and follows a specific identifiable sequence of levels of ethical awareness, moving from ego-centered reasoning (Level 1) through stages of reasoning based on social awareness (level 2) and arriving at a final level of principle-centred reasoning in some mature adults (Level 3). These levels cognitive moral development (CMD) are summarized to create the perspectives outlined at Figure 1 below. Each level delineates a perspective from which moral reasoning occurs.

Kohlberg’s levels of moral reasoning point to useful mindsets from which to approach business ethics questions, even if to do so takes them well away from their original context. Kohlberg’s model is based on observed human behaviour, and his findings have in part been replicated in other situations (Snarey, 1985), even if his ideas were not originally conceived in a business or organisational context. However subsequent research has indicated that the actual behaviour of managers correlates to CMD (Blasi, 1980), and that most managers remain at Level 2 (Weber, 1990). This relevance to a work context has been confirmed empirically (Trevino & Youngblood, 1992). Kohlberg has also been adapted as a framework for the conduct of research into the issue of levels of development also applied to the whole organisation (Victor and Cullen 1988) as well as to the individual manager. This research subsequent to Kohlberg’s original work is a valuable development, as it takes the basic principles of CMD and reworks the idea while keeping its essential nature as a useful framework for describing how ethical decisions are made at work in an enterprise or organisation. This is represented in Figure 2.

An adapted Kohlbergian framework proves a useful summary model for considering issues in business ethics, in that the recognition of legitimate self interest is a key motivator in business behaviour. Also, for Kohlberg Level 2 and 3 perspectives do not replace more ‘immature’ Level 1 thinking, but build upon it from fresh viewpoints

Figure 2: An adapted Kohlbergian model to frame moral reasoning:

![Kohlbergian Model](image)

Given that CMD has been discovered to provide a useful framework to engage with business ethics questions, it is now relevant to survey how his work is treated in Business Ethics texts seeking to perform a similar function to the module delivered at UWL.

**Literature Review**

Business ethics is itself an emerging discipline even if it remains at present dominated by an approach derived from classic moral philosophy. The esoteric nature of this discourse is problematic for students, but at least many of the business ethics texts published over the last ten year specifically reject any monistic
approach to the study of ethics in business in favour of pluralistic models incorporating a diversity of concepts and frameworks (McEwan 2001, Fisher and Lovell 2010).

This brief overview of relevant texts concentrates primarily on authors who are seeking to make ethics accessible to practitioners - most often to support the delivery of courses to students enrolled on validated programmes of study. This is work by academics engaged in the field as a specialization, but aimed at a wider audience. As a body of literature it reflects contemporary approaches taken either to shape course development, or to communicate to practicing managers wishing to acquire a working subject knowledge. While the majority of this corpus is American, recently increasingly credible efforts have been made at developing a specifically European approach, which is helpful for students enrolled at a British University. Contemporary European texts of the type here surveyed typically rely primarily on a summary presentation of influential normative theories to provide the tools for ethical analysis, but then also acknowledge the contribution of descriptive ethics. For example Crane and Matten (2010), at present the best selling European text, places a chapter on descriptive ethics immediately after a summary of ‘traditional’ and ‘contemporary’ normative theories. A reasonably thorough summary of CMD is included as one of a range of individual factors shaping a person’s conduct, but it sits uneasily within descriptive ethics as having only an explanatory value to ethical analysis (which is essentially after events have occurred). Crane and Matten do however address CMD in sufficient detail include a range of critiques of his work.

A similar approach though less critical is followed by Fisher and Lovell (2009), who also provide their own summary framework of normative concepts as an analytical framework, as has McEwan. These approaches, if differently ordered, are comparable to Crane and Matten who by contrast do not provide a specific summary framework to shape a pluralistic analysis. Other UK based texts recently published (Mellahi, Morrell and Wood 2010) Campbell and Kitson (2008) however ignore CMD entirely in favour of summaries focused entirely on traditional normative theory – these authors are specifically seeking to develop concise work accessible to practicing managers so an abbreviation of material is unavoidable – but they are by default stating that normative theory exclusively must be the guiding chief principle for ethical enquiry. Their omission of psychological or sociological perspectives speaks volumes.

Though European texts are now increasing available, American ethics authors still proliferate in greater numbers. In texts originating from USA, Wicks, A. Freeman, R. Werhane, P. & K. Martin (2010) are prominent authors in the field but their joint text continues to ignore psychological perspective in a recent publication seeking to take a managerial approach to the subject. A more nuanced approach is adopted by several edited ‘readers’ collating influential contributions from American scholarship. For example, Beauchamp, T. Bowie, N. & D. Arnold (2009) have compiled a comprehensive work from diverse scholars threading together principles and applications - this is a valuable general ‘reader’ but again CMD is conspicuous by its absence. Overall however a richer picture emerges in edited texts. Bowie, N. [Editor] (2002) has a similar scope to Beauchamp but does includes an essay (Velasquez) that acknowledges moral reasoning in an organisational context needs to attempt to bridge the ‘is ought’ gap. Velasquez’ view is that sheer institutional descriptions of managers roles and activities are simultaneously normative and descriptive, contain implicit norms that guide activities and relationships, and that we should therefore not necessarily expect an appeal purely abstract moral rules to effectively inform and guide conduct. In Frederick (2002) Trevino is much more specific as to the use fullness of CMD, and surveys the progress made in interdisciplinary enquiry between descriptive an normative ethics. Her view is that if difficult to achieve, the goal is desirable. The person-situation interactionist model that has guided her work has as a major component of the model its base in Kohlberg’s research.

Ferrell, O. Fraedrich J. & L. Ferrell (2008) ethics text takes a forward step in the use of CMD in recognizing that the personal values of the manager are more effectively considered ahead of the shared or stated values of the organization - and they recognize that CMD is a valid construct for considering managers’ moral maturity. The same authors have also taken this approach in a wider focus in Thorne McAlister, D. Ferrell, O. & L. Ferrell (2008). A widely disseminated text in the same vein from Lawrence, A., Weber, J & J. Post (2005) adopts a similar approach. These texts are each inevitably reductionist in their representations, but provide sufficient material to grasp the key dimensions of relevant perspectives.

Kohlberg’s (1981, 1984) own research has received a great deal of attention from social science researcher researchers who have subsequently sought to apply his model of CMD to various professions uncritically, but this school of study does not seek to take the conceptual leap to adapt or reframe Kohlberg’s model. Weber (1990). It needs to be recognized that Kohlberg’s work has been the subject of criticism, particularly for its interdisciplinary nature which displeases the purists among both philosophers and psychologists as it does not fall entirely within the norms of either discipline (Modgil and Modgil
Also, the ‘invariate sequence’ of linear development across levels is disputed in various ways, for example:

1. Gender differences are not addressed (Gilligan, 1982)
2. Model is individualistic, doesn’t recognize community (Snarey, 1985)
3. Kohlberg’s model doesn’t extend to moral regression, which is a critical issue in entrepreneurial ethics, as an individual’s moral behaviour may degenerate over time (Crane and Matten, 2003)
4. At level 3 the model interjects personal values, assuming deontological ethics to be of higher worth than relational ethics (Derry, 1987)
5. The model lacks context dependency, which is also a significant influence on ethical behaviour (Jones 1991).

None of these observations take away from the basic appeal of his approach as grounded in observed human behaviour, even if the validity of some of these criticisms is accepted. His model has a value as an organising framework for the consideration moral reasoning form different perspectives, even in a somewhat deconstructed form.

An author who has made a significant if somewhat unnoticed conceptual leap in his use of CMD is Professor Dienhart (2002). His is a unique text as it also looks at the role of institutions in shaping ethics – but what is more interesting in this context is his further adaptation of CMD. Dienhart adopts a Kohlbergian framework in an innovative way, deploying it as an organizing framework for his own classification of traditional moral theories. Dienhart like Kohlberg is a developmental psychologist who has transcended the borders of his discipline and become interested in philosophical issues, and in so doing has crossed academic boundaries into taking an interdisciplinary approach to the study of ethics. Though his particular classification of ethical theories can be disputed, his adaptation of Kohlberg’s broad framework of levels of development has the advantage of enabling the assimilation and use of classical normative theories, but shaped within an overall framework to which business students can readily relate. This framework becomes in effect a conceptual map of a range of specific theories (see an example at Figure 3). While Dienhart does not question the developmental aspects of Kohlberg, it is not necessary to buy into the invariate linear development of Kohlberg’s approach to nevertheless accept that a mix of self-interest, social awareness and ethical principle are fundamental motivators of human enterprise. Dienhart therefore usefully points to the use of Kohlbergian theory in a different context, and opens the door to a creative reframing of his model as a personal construct for understanding the scope of and use of diverse theories.

The Research Approach

MBA students were over the course of the delivery of a business ethics module asked to appraise business conduct, situations and activities from a number of starting points, applying widely accepted concepts and frameworks as summarized in the literature and progressively introduced by the tutor. Models from three UK texts (Crane and Matten, Fisher and Lovell, and McEwan) were considered as alternative useful ways to organize the classification and application of ethical theory. Module assessment for students was based on their own individual choice of enquiry, though students were required to present and defend their work to their peers. They were also asked to reflect on their learning experience, specifically as to the value and use of a range of ethical concepts for the purpose of engaging in ethical analysis and discussion.

At the conclusion of the module, they were also invited to record their views as to the comparative value of the three different conceptual frameworks. Each student was asked to indicate their preference of model for its comprehensiveness, rigour and practicality in applying an ethical analysis, and to provide supporting comments as to the reasons for their choice. Any additional observations were recorded by mean of module assessment and feedback, circulated questionnaires, participant interviews, and plenary discussions. Results were captured and compared over 2 academic years (2008/9, and 2009/10), as obtained from six MBA cohorts in total. Questionnaires were completed and returned by 35 students in 2008/9, (21 in Semester One, 14 in Semester Two) and 32 students in 2010 (22 in Semester One and 10 in Semester Two). These results are summarized below.

Findings

There was a consistent preference across cohorts for the use of an adapted Kohlbergian framework as an organizing principle as compared with other approaches.

Table 1: Preference for Organizing framework.
The findings provide clear evidence that an approach which is interdisciplinary in nature, combining insights from both developmental psychology and moral philosophy is consistently the most effective in engaging MBA students. Typical comments recorded were:

“Crane and Matten summarize most normative theories well, but do not then really provide a specific methodology for their application”

“The McEwan ‘moral compass’ is overloaded in attempting to incorporate too wide a range of theories”

“The Fisher and Lovell ‘map’ of ethical theories is questionable in its placing of Virtue theory, although the theory itself is well explained”

“The CMD model makes sense, as it reflects my own experience”

Kohlberg’s work is then a useful start point for adaptation to build a pluralistic approach to the use of ethical theory. Dienhart has demonstrated that the ‘levels’ of CMD provide the basis of broad classifications of ethical theories, and can be applied as an adaptive model reflecting the different ethical orientations of different individuals. Students engaging with the subject are able to move on by the end of the module to create their own mental maps, including or discarding specific moral theories as they shape and enrich their own worldview. Figure 3 actually represents one particular student’s typology of key ethical theories with which she wishes to engage - environmental ethics is here classified as relational because the student accepts Lovelock’s notion of ‘Gaia’. Others have used the framework differently e.g. several of those several of religious belief have adopted the principle of ‘stewardship’ and therefore include faith as a relational ethic. The adapted CMD model has also proved accessible as a useful framework for personal learning and development in its various applications to business contexts. Discussions with students demonstrated that the model can be freely tailored as a personal construct to be used for self directed study, as it provides a reliable mental map.

**Figure 3: An Adapted Kohlbergian model to classify ethical theory:**
Examples of comments recorded relating to the extended use of this model were:
“I am interested in exploring rights theory and its relationship to distributive justice “
“I would like to understand Machiavelli better – not sure if it is ethical though!”
“None of these models adequately covers different approaches to environmental ethics”

These comments indicate that there are ultimately limitations to the use of any conceptual model, no matter how well framed.

Value and Limitations
The challenge of making ethical conversations relevant to the workplace can be met with the use of appropriate practical frameworks, in a context of enquiry based approach to learning and in a safe social space for that learning to occur.

Analysis and debate is a precursor to reflective learning, which is of course not at all the same thing as ethical behavior in the workplace. In the seminar, pressures such as moral distancing (Bauman, 1989) i.e. a suppression of any sense of personal involvement are not incurred, and ‘moral muteness’ (that an inability to articulate moral discourse due to the pressure of the workplace) are avoided (Bird and Waters, 1989). However the absence of such pressures is precisely the value of an educational context, where there is opportunity for skills in ethical discourse to be developed. Also, if the classroom is not the workplace, for MBA students there is a reasonable proximity between the two, and in this context a work related approach to learning is relevant and useful. Here the variables of power relationships and the influence of organisational culture and ethos are diminished. MBA students of course do not always accurately represent the whole population of management practitioners – there is an inherent bias among them towards those open to new ideas and willing to make the effort to learn. But they do represent those who are willing to change, to think and act differently, and as such are a valuable barometer for all practicing managers. We live now in a business context where increasingly stakeholders will challenge moral aspects of business, and expect management to be to explain, defend, and sometimes improve their praxis, and so effective and accessible ways to develop ethical awareness among managers is becoming a key skill at work.

Effective and realistic moral reasoning will not solve all the challenges of ethics at work, but it is a good starting point. Moral climates cannot change without a discourse to provoke change, and the real value of the approach taken here is that an interdisciplinary approach using a framework based on CMD has been found to be accessible to managers from a wide range of professional backgrounds. It is hoped this research is to be followed up by subsequent work measuring changes in perceived self efficacy between the beginning and conclusion of a business ethics course.

Conclusions
The language of ethics is collaboratively developed and defined, and ethical conversations in the workplace are initiated and shaped by managers and leaders. Skills are needed for this task, which can be effectively developed in a context which is work related but a separate space, where competences and skills can be developed for use at work. These findings indicate that an interdisciplinary approach can be created which crosses the boundaries between developmental psychology and moral reasoning to which practitioners can readily relate - this has implications for the direction of further research in applied business ethics.

Developing ethical awareness among MBA students remains challenging, but it can be also engaging and exciting when structured as a social learning experience and can further stimulate subsequent personal reflection. The use of normative theory as an ethical resource is helpful to frame moral thinking and discourse, but because it is unfamiliar territory it is best introduced through the vehicle of more readily assimilated material. If moral discourse is approached from a perspective of cognitive moral development, the territory becomes rather more familiar. Kohlberg’s research is controversial, but it is remains a valuable starting point for enquiry into moral reasoning from different various psychological perspectives which have their counterpart in a range of specific moral theories.

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Online assessment of oral foreign language skills for intercultural professional communication.

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Abstract: This paper describes the rationale behind the development of a customizable online tool known as CEFcult, designed for collaborative assessment of intercultural communicative competence. The tool is based on scenarios of intercultural communication and incorporates descriptor-based assessment of linguistic and intercultural competences. It is designed to be used for expert, peer- or self-assessment in several European languages. The central component of a CEFcult assessment is a scenario (for example, ‘working in an international team’), composed of one or more assignments. The assignments can be presented through video, audio, image or text. The learner records his/her response online, generally through a webcam and microphone, although other response types are also available. Once the learner has completed the assignment(s), the recorded responses can be made available for online assessment by professionals, peers or the learner him/herself.

Intercultural communication
A major goal of language training for professional purposes is to enable learners to use the foreign language for effective communication in intercultural settings. The importance of this intercultural dimension has long been recognised in European (and other) initiatives to promote language learning: “The language learner becomes plurilingual and develops interculturality. The linguistic and cultural competences in respect of each language are modified by knowledge of the other and contribute to intercultural awareness, skills and know-how” (Council of Europe 2001: 43, their emphasis). To judge whether this goal is being reached, it is helpful to have tools to measure both linguistic and intercultural competences. Apart from conventional face-to-face interviews, though, the availability of such tools is limited in two main ways: online diagnostic tests (such as DIALANG) do not cover oral production skills, and there is no ‘standard’ framework for assessing intercultural communicative competence.

Assessment frameworks
For the assessment of language competences, the Common European Framework of Reference (CEFR), with its six levels and corresponding descriptors, is now widely known and used within Europe and beyond. Nevertheless, the interpretation and application of CEFR scales is not always straightforward, even for experienced teachers. An earlier project, known as WebCEF (see http://www.webcef.eu/) provides a platform for collaborative online assessment of oral proficiency using the CEFR. It is presently used by language teachers, for comparing assessments and for providing their students with a safe environment for online self- and peer-assessment, but also by teacher trainers, for giving their trainees practice and support in the interpretation and application of CEFR scales for oral production.

The CEFcult project builds on the experience gained from WebCEF, to provide greater flexibility (through customization features which will be discussed below), and to integrate an additional assessment of intercultural competences. The assessment of intercultural communicative competence introduces two new difficulties. Firstly, although language teachers can reasonably be assumed to be experts in the language they teach, it does not necessarily follow that they have expertise in intercultural competence. Secondly, unlike the situation for assessing language proficiency, there is no widely-used framework for assessing intercultural competence. The CEFR itself has a scale for sociolinguistic appropriateness, and refers at various points to intercultural competence, but has no specific descriptors for it. Many frameworks do exist, however: Paige (2004) surveys 35 instruments for intercultural training; Spencer-Oatey and Franklin (2009) list 77 different instruments, and Fantini (2006) describes 87 assessment tools. These instruments include portfolios, self-assessment scales, assessor-administered questionnaires, team-work observation, role-plays and scenarios, and are based on various models of the components of ICC. The difficulty is choosing a framework that will make sense to language learners and their teachers, without extensive training, and which can be incorporated into an assessment of communicative competence. Of the many frameworks available, the one which most directly complements the CEFR for languages, and which was therefore adopted for the CEFcult project, is the Intercultural Competence...
Assessment (INCA) framework, based on work by Byram (1997) and other members of the INCA team. This framework distinguishes three main components of intercultural competence (openness, adaptability and knowledge), each comprising two sub-components (respectively, respect for otherness and tolerance for ambiguity, behavioural flexibility and communicative awareness, knowledge discovery and empathy) and provides descriptors for each of these, at three levels of expertise. Combined with the various CEFR descriptors for spoken interaction, range, accuracy, fluency, coherence and sociolinguistic appropriateness, this provides a dozen or more scales that can be called on as required, for the assessment of the corresponding aspects of intercultural communication.

**The CEFcult tool**

Figure 1 shows the main menu of the CEFcult tool, from which the user can choose to follow a scenario (i.e. record responses to an existing assessment scenario), assess a user, build a new scenario, create a new assessment scheme, or view assessments that have already been made.

![CEFcult tool](image)

The assessment process begins with the creation of a scenario. Existing scenarios are available for anyone to use if they are appropriate to their needs, but a major feature of the CEFcult platform is the possibility for users to build their own scenarios by defining tasks (which can be based on text, picture, sound or video prompts), by choosing the kind of response (online recording through a webcam, offline recording followed by a file, text response or multiple choice question), and finally by selecting the appropriate CEFR and/or INCA scales.

Once a scenario has been created, it is added to the scenario menu (see figure 2), in which the scenarios can be sorted by language. A user can then select a scenario and work through it, recording his/her responses as prompted, in most cases using a webcam and microphone to give oral answers. These responses are then available for potential assessors (including the user him/herself) to evaluate; to protect privacy, assessors can only access recordings if they have been invited to do so by the user who produced them.

When an assessor accesses a sample, the tool displays the appropriate CEFR and/or INCA scales, accompanied by the corresponding descriptors and an annotation box which can be used for comments. In the case of self-assessment, learners can be guided through the descriptors to choose those that best correspond to their performance. Like the original responses, the assessments can then be made available for the user, and other invited assessors, to view and compare. An important feature of the tool is thus the possibility to share assessments and so enable collaborative assessment of samples and/or training of assessors. Figure 3 shows a sample assessment page.
Evaluation
The project is presently in the piloting phase, during which the tool is being tested in seven European countries (Belgium, Finland, France, Germany, Italy, the Netherlands and Poland). It is therefore too soon to make a proper evaluation, but notable issues that emerge from user feedback so far are briefly discussed below.

General versus specific competence.
The need for intercultural communicative competence comes in a variety of flavours. Learners and teachers of languages that are widely used as a means of international communication (most obviously,
English) may be concerned with the skills necessary to ensure effective communication in multicultural settings, without necessarily knowing in advance which particular culture, or mix of cultures, will be involved. In this case, the “awareness, skills and know-how” referred to in the CEFR are general attributes of flexibility, empathy, tolerance, etc., not linked to knowledge of any specific language or culture (although one might imagine that the wider one’s experience of other cultures, the more such skills have the opportunity to develop). For learners of languages more exclusively associated with a particular country or culture, the need for intercultural competence may be more specifically defined. And both types of competence – in multicultural settings or with a specific cultural group – can in principle be needed independently of foreign language skills. There is therefore a range of possible scenario types, from those which address specific known cultural differences, to those which seek to find evidence of a more general intercultural aptitude. The extent to which users will engage with a scenario will depend on how they perceive it as being relevant to their experience and needs. Finding the right point along the continuum from the highly specific cultural phenomenon to the most general intercultural sensitivity is not easy.

**Authenticity of scenarios**

Evidence that users have found it difficult to engage with a scenario may be seen in comments that scenarios are “not authentic enough; they do not appear realistic”. Any task that asks the user to simulate a hypothetical situation, or even to comment on how he/she would react in an attested situation, runs the risk of appearing inauthentic or unreal in various ways. Users may find the situation implausible, or may have difficulty imagining how they could find themselves in such a situation, or feel that they do not have enough context or background information to make the scenario come alive. It is a common challenge for any kind of simulation to provide just the right kind and quantity of information to allow participants to suspend disbelief and let their creativity provide the rest. In delivering usable online scenarios, this difficulty is compounded by the need to avoid excessive quantities of text on screen, complex navigating from one screen to another, and so on.

A more intractable problem is that while the linguistic competence that a learner displays in a simulated exchange may come quite close to what s/he would be able to do in a “real-life” encounter, there is no guarantee that the same will be true of the displayed intercultural competence. As Lustig & Koester (1999: 329) remark, “What you really do, rather than your internalized attitudes or projections of what you might do, is what others use to determine whether you are interculturally competent.” This is echoed in user comments such as, “Within an assessment situation as the one carried out by CEFcult, the assessee could manipulate the results by acting in an unnatural way.” Even without any conscious manipulation, it is a natural reaction for learners to adapt their behaviour towards what they think is being expected of them.

**Appropriateness of tasks**

The INCA framework has six assessment scales, each for a different aspect of intercultural communicative competence. A task covering all of these aspects would need to be quite elaborate and therefore time-consuming. Consequently, most of the teasks in CEFcult are designed for use with just one or two of the INCA scales. Although scenario writers try to deliver tasks that clearly target a given aspect of intercultural communicative competence, (self-) assessors may have the feeling that the task does not actually provide enough evidence, or the right kind of evidence, to assess the competence in question, as evidenced in comments such as “The task […] is hardly apt for assessing the assigned criteria of behavioural flexibility. Instead, the assessee is given the opportunity to show his knowledge about his home country’s customs.” The problem of obtaining the right kind of evidence is familiar to users of the CEFR, where a speaker cannot be conclusively assessed at, say, C1 level if the task can be completed without actually producing language at the corresponding level of range and complexity. For assessing language competences, though, there is a lot of accumulated experienced as to what kinds of task are appropriate to which CEFR levels. For assessing intercultural communicative competence, this shared experience is largely lacking, and there is also more scope for asseeses to respond in ways that the task creator did not anticipate. A potential solution might be to allow assessors themselves to choose whichever INCA scale best fits with the evidence provided by the assessee’s response. At present, assessment scales are chosen by the scenario creator at the moment of building the scenario, and the tool does not display any other scales. However, to give assessors a choice would mean displaying a potentially bewildering list of scales, and would increase the (already large) potential for divergence among the resultant assessments.
Inter-rater agreement

We do not yet have enough evidence from CEFcult piloting to quantify the extent to which multiple assessments of the same samples converge in their rating, so the remarks which follow are anecdotal. It is clear, though, that assessments do give rise to divergence: “Apparently, the speaker who made a self-assessment evaluated her own performance much more generously than the peer assessors did.” In itself, this is not surprising; most users have little or no experience of assessing intercultural communicative competence, and are using the INCA descriptors for the first time, so it is no doubt inevitable that there will be differences in interpretation. In this respect, the annotation facility in CEFcult has an important role to play, in allowing assessors to explain their assessment or to point to evidence in support of it. Both for linguistic competence and, even more so, for intercultural competence, these annotations are often more valuable than the ratings themselves, for assesses to understand how their performance is perceived, and why. Such annotations also provide useful data to those interested in the process of assessment, including examples of how the same evidence can be used to support differing conclusions. This is not unknown in language assessment, where retracing, for example, is sometimes cited as a “positive” sign of linguistic awareness and ability to self-correct, and sometimes as a “negative” sign of incomplete fluency. Given the higher degree of subjectivity in perceiving intercultural competence, the potential for divergent interpretations of the same behaviour is correspondingly greater.

Conclusion

The issues discussed above are largely inherent to any assessment of intercultural communicative competence. Two principal features of CEFcult are intended to offer a (partial) solution to these questions. The first of these features is the collaborative nature of the tool. Rather than offering a mode of assessment in which a learner is given a one-off authoritative assessment by a presumed expert, CEFcult proposes a platform through which the learners themselves, their peers, teachers and/or other professionals can compare their perceptions of the user’s responses to a scenario. Since very few people can legitimately claim expertise in the assessment of intercultural competence, this was felt to be the most useful way of providing feedback on users’ productions, while at the same time diminishing the effects of anxiety a user may feel about being ‘judged’: “All participants agreed that IC is a skill hard to measure particularly if the assessee acts as if he or she were in an exam.”

The second feature is the customization of the tool. No assessment scenario can possibly be appropriate for all needs, so the platform allows for tailor-made scenarios to be uploaded using the scenario builder, or for elements of existing scenarios to be recombined or adapted to fit specific needs. Any scenario that is created can contain as many different tasks as are needed, and each task can be assessed using any of the CEFR and/or INCA scales available. It is also possible to make custom-built assessment scales, by writing new descriptors or by adding specific examples to the existing descriptors. It is hoped that rather than being a fixed framework, CEFcult will provide a flexible, evolutive tool that users can adapt to their own particular needs.

References


International students of Economics in the UK

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The Economics Network has used surveys of students, alumni, lecturers and employers as part of its research programme into teaching and learning in the UK Economics Higher Education for more than ten years. In 2009-2010, the Economics Network carried out its fifth survey of Economics students, covering both undergraduates and postgraduates. This paper focuses on the perceptions of international students that were revealed, as well as the findings of Economics Network projects, handbook chapters, case studies and events to assess and evaluate effective practices in the teaching of international students.

Internationalisation has become an increasingly predominant theme within Higher Education (HE) in the UK. 10% of UK Economics students are from the EU and 26.9% are from outside the EU, emphasising the need to ensure teaching practices support their learning and teaching.

The student survey was conducted online, as part of the Economics Network's ongoing research programme into teaching and learning in Economics. The survey aimed to provide valuable information on students' perceptions of studying economics, including identifying strengths and weaknesses in learning and teaching practice. Among all the respondents English was a first language for 66.3%. According to HESA data, 63.1% of UK economics students come from the UK, and a majority have English as their first language. For the purpose of this analysis “international students” refers to those who did not have English as a first language.

Analysis of international students was conducted around the following themes; previous learning experience; decision to study in the UK; differences from prior experiences of education; the use of Virtual Learning Environment’s (VLEs) and finally; their overall satisfaction with their studies in the UK.

Four out of five international students were satisfied with their degree course. The use of VLEs was considered to be very useful, supporting the findings of an Economics Network funded project which examined inclusive practices to promote international students’ participation and satisfaction.

This paper explores the student survey results, the issues raised and the outcomes and findings from the Economics Network’s Inclusive Practices to Promote International Students’ Participation and Satisfaction project, where international students are viewed as a valuable resource in themselves, and also as a catalyst for the development of internationalised curricula in Economics.
Enhancing International Work Placements Through Virtual Mobility: the EU-VIP project

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Abstract: The European project EU-VIP (Enterprise-University Virtual Placements) looks into the possibilities virtual mobility can offer in the area of international work placements. The project partnership started by putting together a framework for organizing virtually supported work placements. This framework was used to design and implement 18 pilot projects. Based on the results of these pilots the framework is being updated and critical success factors for integrating virtual mobility in international work placements are being identified. The final guidelines on how international work placements can be supported and/or facilitated through virtual mobility will be ready and available by fall 2011.

Background and concepts
Virtual mobility can be an alternative or an addition to physical mobility when it comes to realizing the goals of internationalizing European higher education. Virtual mobility is a term that has a broad scope. At the Media and Learning Unit of the K.U.Leuven (BE), we define the concept of virtual mobility as „a set of ICT-supported activities that realize or facilitate international, collaborative experiences in a context of teaching and/or learning“. There are different types of virtual mobility that can be distinguished: virtual mobility to facilitate or realize an international exchange, virtual mobility to facilitate or realize international work placements or virtual mobility as a scenario to internationalize a curriculum, (part of) a course, an assignment, a seminar, etc. In this paper we will focus on the enhancement of international work placements through the use of new technologies.

Work placements are an important way of exposing college students to complex work problems that require analytical, technical and soft skills. They play an essential role in helping graduates obtain the competencies and skills that are necessary in a dynamic knowledge economy. In a context of increasing global economic connectivity and interdependence, gaining practical work experience in an international environment is also becoming more and more important. However, traditional international work placements, where the learner travels to the company abroad, require a high degree of flexibility and there are regularly financial, geographical, social and other barriers to such physical mobility.

For those physical placements abroad that do happen, there are also a number of difficulties to overcome, e.g. students receive insufficient and discontinuous feedback from their home institution, communication between the enterprise and the higher education institution is often lacking, feedback about a placement at an enterprise to the higher education institution and vice-versa is barely formalized, etc.

In this paper we will present the preliminary results of the EU-VIP project (www.euvip.eu). EU-VIP stands for Enterprise-University Virtual Placements. In answer to the issues raised above, this project looks into the possibilities virtual mobility can offer in the area of international work placements. The integration of virtual mobility activities in international work placements can vary on a scale from very limited to a fully virtual work placement, in which the trainee never has physical contact with company staff.

About the project
EU-VIP is funded with support of the European Commission under the Lifelong Learning Programme (Erasmus – Multilateral Projects – Cooperation between Universities and Enterprises). The project brings together 16 partners from 8 different countries. To ensure the success of the project all stakeholder groups are represented: the consortium is composed of higher education institutions and European not-for profit associations of universities, businesses and students:
The main aim of EU-VIP is to develop online and printed guidelines on how international work placements can be supported and/or facilitated through virtual mobility. The project runs from October 2009 until September 2011.

The project partnership started by putting together a framework for organizing virtual(ly supported) work placements. In essence this framework starts from the same basic principles that are valid for traditional work placements, but with an extra focus on special attention points and issues related to the implementation of virtual mobility activities.

The general framework was used to design and implement 18 pilot projects. These pilots all vary on the scale from a very limited to a very far reaching integration of virtual mobility activities. Before executing the pilots, all participants (students, teaching staff, administrative staff, company mentors...) receive local training adapted to their specific needs. After pilot execution, all participants contribute to the evaluation of the pilot, via surveys and/or interviews. The feedback from the pilot participants is used to further expand and fine-tune the guidelines. The added value of this approach is the fact that the guidelines will be linked to concrete experiences of all stakeholder groups and focus on answering their real needs.

The EU-VIP framework

Pedagogical foundations

The way in which an internship mainly differs from a temporary student job is the inclusion of an intentional learning agenda in the experience [5]. Therefore, to design a virtual or a blended work placement effectively, we need to start from a solid pedagogical basis. This basis is found in the ideas underpinning work-based learning. The most important among these ideas are:

Learning through experience and reflection

Experiential approaches to learning have developed from the work of Kolb (the experiential learning cycle). This view on learning stresses the importance of a direct learning experience. It includes both theoretical and practical elements in the learning process. Experiential learning involves three phases: preparation, action and experiences, reflection. In work placements there needs to be a special focus on stimulating student reflection and self-assessment regarding the learning process that is structured into the experience.

Learning in an authentic context

In work-based learning, the learning experience starts from realistic, authentic problems. This approach emphasizes the importance of informal learning to develop skills and expertise in an authentic context.

Learning as a social process

Any work experience is situated within a social context. The learner becomes part of a new community whilst still retaining links with and drawing support from the educational community in which she/he operates. This view has its basis in a socio-constructivist approach where learners build upon their previous experiences in interaction with peers and tutors to construct new knowledge and skills. Work placements need to be designed according to these learning strategies in order to be successful. When organizing virtual or blended placements the technology needs to be chosen and used in such way that the necessary learning processes are stimulated.

The different actors

There are always various actors involved in a work placement process. Within the higher education institutions we can distinguish two groups:

- the administrative staff to support and organize the practical side of the work placement,
the academic mentor, supporting the student’s learning process and responsible for the end evaluation. Ideally there is also a mentor appointed within the company who is responsible for guiding the student during the assignments and through the organization’s social and cultural aspects. Centrally in the work placement stands of course the student who aims to reach his/her learning goals, under guidance of his/her mentors.

### The different phases in a work placement

Looked at from a time perspective, we can distinguish 3 different phases in a work placement: before, during and after the placement. The preparatory phase in which the conditions for organizing virtual(ly) supported placements are created (e.g. accreditation issues, curriculum development, installing technologies and developing services), is not dealt with here. In each of the addressed phases one or more different actors (students, higher education staff and/or business representatives) are involved and virtual mobility activities can help to enable an optimal interaction between the different stakeholders. Every phase has its own attention points and issues. Below we will give a short description of the different phases and illustrate the integration of virtual mobility activities with concrete examples from the EU-VIP pilot projects and other good practices.

#### Before the work placement

In this phase preparations need to be made to ensure a successful placement. This means in first instance the design of the concrete placement in line with solid pedagogical foundations. The EU-VIP partnership supports the ideas underpinning work-based learning (see above).

![Figure 1. A visual representation of the phase preceding the work placement](image)

In this phase it is essential to plan the placement thoroughly in all its aspects. Ideally all of these agreements, responsibilities and procedures are in the end part of a written agreement between all actors.

#### Examples of virtual mobility activities in the before phase:

- In the pilot project organized by the University of Turku (FI) an offer for an international placement was made by TURKU-Southwest Finland European Office located in Brussels (BE). To select the right student (in political sciences) for the job the organization organized Skype interviews with the candidates. After the student selection, Skype was also used to make the first arrangements regarding the placement. This same method of student selection via Skype was also used in the pilot project of K.U.Leuven (BE) where a student in Cultural Studies is performing a fully virtual placement for CID (International Dance Council of UNESCO, FR).
- The University of Padua (IT) uses video CV’s in which students can present themselves to foreign companies. The video CV has proven to be an effective way for students to introduce themselves to companies abroad, with a focus on demonstrating their communicative and linguistic skills. The video
CV’s are offered via an online platform which also provides a chat function through which remote interviews between the students and the interested companies take place.

- As stated above, a thorough planning of the work placement in the before phase is of great importance to the future success of the placement. To make this joint planning between all stakeholders possible in a cross-border context, the University of Padua (IT) used video conferencing technology in their pilot. This technology proved to be very effective because of its close resemblance to a face-to-face meeting.

**During the work placement**

During the placement the focus will of course be on the development of knowledge and skills through practical and authentic tasks. Next to discipline specific competencies the student will ideally also have the opportunity to work on generic skills like international, teamwork, social and communication skills. To stimulate this learning process coaching and feedback from academic and company mentor are essential. All coaching activities also have to be in line with each other.

![Figure 2. A visual representation of the activities during the work placement](image)

**Examples of virtual mobility activities in the during phase:**

- In a number of pilot projects the work placement took place at a distance, with the student staying at home (for different reasons, e.g. the family situation) while performing authentic tasks for a company abroad. To ensure a good communication and collaboration with the company staff, detailed agreements (‘communication protocols’) where put into place. Technologies as Skype, Adobe Connect and video conferencing (enabling face-to-face communication) resulted in a more personal contact and a feeling of mutual responsibility between the actors involved.

- As stated above, reflection and self-assessment are essential to the learning process of a student during a placement. Technology solutions prove to be very effective in stimulating and facilitating this – even when the student is undertaking a placement abroad. The project from Aalto University (FI) is therefore looking at the integration of e-portfolio technologies through which the student and his academic mentor can keep track of and reflect upon the progress regarding the student’s skills development. The pilots from K.U.Leuven (BE) focus on the use of (video) blogging to stimulate student reflection and to improve student follow-up by the academic responsible. In the University of Groningen (NL) the choice was made to use Skype on a regular basis to improve intermediary communication with the academic mentor.

- The KHLeuven (BE) organized a pilot in which students in business studies, undertaking a work placement abroad, participated in a weekly seminar at their home institution through video conferencing. These seminars took place together with their peers at home and were aimed at exchanging experiences regarding local and international work placements. This way the students at home had the opportunity to share the international experience. The students abroad were able to reflect better on the differences in business culture. Next to this the students also used an e-portfolio and an online self-assessment tool to monitor their own learning process.
After the work placement
In this phase evaluation is the central theme. Firstly there is the evaluation of the student according to the formulated criteria. Ideally the end evaluation or accreditation will be based on a joint decision of the company and the academic mentor; although the academic mentor will normally hold the end responsibility. Mostly, the student will also be asked to write a final report on the work placement, including a reflective self-assessment. The cooperation between higher education institution and the company/organization should also be assessed. Strong points and future opportunities need to be identified. Problems or difficulties should be examined so they can be avoided in the future. If the cooperation was really problematic, the possibility to find other hosting companies needs to be looked at.

Figure 3. A visual representation of the activities after the work placement

Examples of virtual mobility activities in the after phase:
- FernUni in Hagen (DE) developed a Moodle platform to support students undertaking a work placement in all phases. During the placement the students keep track of their progress through the e-portfolio function. They also have the opportunity to communicate with peers through the discussion forum. This results in a detailed log of the work placement, accessible to all actors during and after the placement. The student uses this log to perform a self-assessment and the mentors can take it into account when deciding on the end evaluation and accreditation of the placement.
- The University of Groningen (NL) uses a comparable platform in Blackboard. The aim of this platform is also to support students throughout their placement abroad. After their placements students also have the opportunity to report on their experiences with a certain employer. This feedback is available via the platform for all future trainees.
- In the fully virtual placement organized by the K.U.Leuven (BE) the blog the student writes to report on his progress, will be used to replace the ‘normal’ (in case of a real placement) paper report. The end evaluation will be based on this report in combination with a Skype meeting between academic and company mentor.

Critical success factors
Based on the implementation and evaluation of the pilot projects so far, the EU-VIP partnership has already managed to identify a number of factors that appear to be essential when it comes to a successful implementation of virtual mobility activities in international internships.
**Student characteristics**
Different pilots indicate that students undertaking a work placement at-a-distance through virtual mobility activities need to have good meta-cognitive skills, i.e. they need to be able to take control of and plan their own learning process.

Next to this, intrinsic student motivation to bring the placement to a successful end has been identified as an essential condition for success. Of course this initial motivation needs to be stimulated and fed throughout the placement. The pilots have shown that motivation can be influenced positively by clear agreements, by making sure the technology is an aid and not a barrier and by integrating human presence in the experience (see below). Coaching and feedback are also important ways to enhance student motivation. Furthermore, student motivation is likely to increase if the tasks are authentic and in line with the student’s competencies. This task should be of real value to the company/organization. In terms of difficulty, a good task is feasible and challenging at the same time.

**The before phase**
The importance of the before phase cannot be emphasized enough. Virtual(ly supported) work placements need to be designed and planned carefully in all their aspects: communication, goals, roles, tasks or responsibilities, feedback procedures etc. Even though this aspect is without any doubt also very important in case of “traditional” work placements, the pilot projects show that this need is even stronger when virtual mobility activities are involved.

**Communication protocol**
In the before phase it is advised to draw up a communication protocol, certainly when communication will solely or mostly be taking place virtually. Such a protocol can state when the different actors are available for synchronous communication, how much time can pass before an email needs to be answered, which technologies will be used for which ends, when reporting is required, how the coaching process will be organized etc. In the light of building a personal relationship between the student and his/her ‘virtual’ co-workers, it is also advisable to define space for not-task-related communication.

**The human factor**
Research has shown that face-to-face contact at some point or on some level is beneficial to the success of the activities, because it builds a mutual feeling of trust and responsibility. The results of the pilot projects confirm the importance of the human factor. When it is not possible to meet face-to-face, the choice of technology seems to have an impact on the degree of involvement. A tool like video conferencing creates a much more personal interaction than for instance an asynchronous tool like email. As stated above (see ‘communication protocol) it is advisable to consciously create space for ‘virtual’ social talk.

**Organizational socialization**
The overall design of the placement plays an important role in realizing “organizational socialization”, i.e. exposing the student to an organization’s social and cultural aspects and making him/her feel part of the organization/company. Organizational socialization is what makes the difference between conducting an isolated student project and undertaking a work placement. Concrete strategies for stimulating this in a virtual setting are for instance: creating an online environment through which the trainee is informed of the responsibilities of all his/her co-workers and through which he/she can contact them; letting the trainee participate in staff meetings via video conferencing; making sure the virtual intern is clearly introduced to all the co-workers in the same way as a ‘physical’ one.

The authenticity of the task and its real value for the employer are also determining factors in making the student feel part of the organization/company. As stated above, work placements should enable learning as a social process (in interaction with others). In this light a choice for technologies that are aimed at facilitating collaboration processes is advised.

**Intercultural skills development**
International work placements are organized as a way of internationalizing curricula. The main aim of internationalization in higher education is to make sure the future work force develops the necessary intercultural competencies to function in a globalized economy. They need to be able to tolerate diversity and to embrace differences without feeling threatened in their own cultural identity.
It goes without saying that the intercultural experience through physical mobility differs from this experience through virtual mobility. The pilot projects show nevertheless that the development of intercultural competencies through virtual mobility is possible. Conditions for success are here:

- The academic mentor explicates from the beginning (before phase) what ‘intercultural competencies’ are and lets students reflect on the development of these competencies on a regular base. Peer feedback can also be very helpful to stimulate this reflection process.
- The focus needs to be more on written communication, differences in business culture and negotiation styles.
- Students preferably have previous experiences with virtual communication.

**Technology support**

The goal of technology use to support or organize work placements is to enhance the quality and possibilities. The pilot projects however indicate that tools can easily turn into a barrier when the participants lack in e-literacy or when the technology is not user-friendly and reliable. The availability of technology support before and during the placement therefore seems to be a critical success factor.

**Conclusion**

This paper looked into the possibilities that virtual mobility can offer in the area of international work placements and presented the preliminary results of the EU-funded project EU-VIP: a framework for organizing virtual(ly) supported work placements, concrete examples and pilot projects and critical success factors. The presented results will be discussed elaborately in the guidelines on integrating virtual mobility in work placements. The EU-VIP partners will publish these definite guidelines by fall 2011.

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Worldwide converging developments in distance education

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Abstract: Some converging developments can be noticed in the development of distance education in the 21st century. The origin of these tendencies is the growing worldwide acceptance of distance education. Distance education makes available education in dense populated areas and it enables continued learning for adults, who cannot afford to spend much time in classrooms. However, the growing acceptance of distance education requires that the same quality standards are applied likewise in f2f and distance education.

These standards have in common a high degree of interactivity between students, teachers, resources, and the outside world. The growing availability of IT-support (e-learning) enables, a high degree of interactivity in distance education and consequently, distance education can comply with current quality requirements. However, large differences exist between countries regarding the accessibility of electronic devices to support learning. The paper differentiates between high tech and low tech IT support, and it demonstrates how emerging countries can reach at least basic quality in implementing distance education.

The growing acceptance of distance education

From a global point of view, distance education in the 21st century has many faces. There are examples of the exchange by post of typewritten instructions by teachers and filled handwritten assignments by students. At the other hand there are examples of the exclusive delivery of learning materials by internet and the corresponding use of electronic devices by students. However, converging tendencies can be noticed, which go together with the growing acceptance worldwide of distance education as a part of the educational infrastructure (Rosenberg, 2000). The growing appeal to distance education results from the before unknown growing demand in higher education and the consequent challenge of massification (Altbach, Reisberg, & Rumbley, 2009). Only, from 2000 until 2010, the number of students is increased from 100 to 150 million, worldwide. At the beginning of the 20th century, the total amount of students was half a million (Guri-Rosenblit, Šebková, & Teichler, 2007) There is a huge potential for further growth. In the United States about 50% of the age cohorts between 20 – 30 years have higher education against 5% in Africa. The world average is 20%. In wealthy and in emerging countries as well, governments are unable to invest in higher education accordingly. This puts a pressure on quality and a shift from education as a public to a private good, resulting in a fast increase of private higher education (now already 30% worldwide). Against this background, a greater role for distance education seems inevitable and in the past decades unprecedented growth in number and enrolments of mega-universities has taken place. For instance, Indira Ghandi University has more than 2 million students.

Distance education makes available education in dense populated areas and it enables continued learning for adults, who cannot afford to spoil time in classrooms. Distance education is delivering education in the students’ home or in any other place they want. At the same time, distance education has the potentiality to connect people from all over the world in one virtual classroom. (Schuetze & Slowey, 2000).

Converging standards for quality in education

However, the growing acceptance of distance education requires that the same quality standards are applied likewise in f2f and distance education (Mehrotra, Hollister, & MacGahey, 2001). Recently, a couple of meta-analysis has scrutinized thousands of theoretical and empirical studies. They came up with seven characteristics, which for reasons of brevity are compressed in four. The quality of education is better if it promotes:

1. Active learning and high expectations
2. Frequent and timely interaction between students and teacher
3. Co-operation between students
4. Personalization (Chickering & Gamson, 1987)
Active learning literally means that education is challenging. The transmission of information, as often happens in lectures is not. Assignments that ask students to look for theoretical and practical information themselves generally are.

The intensity of the interaction between students and teachers is the second criterion for quality. Delivery of feedback is one of the best contributions of teachers to students’ learning. The creation of psychological safety is another. Agreements with respect to the timely delivery of assignments and feedback must be kept.

The third characteristic is cooperation between students. Especially, in case of adult learners, fellow students represent complementary perspectives, experiences, tacit knowledge, and values. Helping each others and building teams are indispensable in the knowledge economy.

The last one is the possibility for students to satisfy their own interest and look for the newest scientific insights and literature. In addition, modest freedom for students to comply with their learning preferences and to plan their own study will improve learning outcomes.

**Interactivity and connectivity**
These characteristics have in common a high degree of interactivity between students, teachers, resources, and the outside world. The fundamental question is, whether a high degree of interactivity can also be achieved in distance education. Many still think about distance education, as the lonely student in the silent study behind his or her books.

The paper will elaborate that owing to the growing availability of IT-support, in distance education a high degree of interactivity between students, teachers and the outside world becomes attainable. Consequently, distance education can comply with current quality requirements (Barsky, Clements, Ravn, & Smith, 2008; Maier & Warren, 2000; Rosenberg, 2000). Only in case of the availability of digital devices, mega universities will be able to scale the availability of (higher) education and to compete with the other institutions for higher education (Young, Perraton, Jenkins, & Dodds, 1980). IT is able to compensate three shortcomings of distance teaching universities over campus universities (Guri-Rosenblit, 2010):
1. To overcome the isolated position of students
2. Making available libraries and other information

A clear policy with regards to the use of IT and adjustment between the de different technologies and providers are even more important than the availability of infrastructure (Cobcroft, Towers, Smith, & Bruns, 2006).

The significance of the role of mega-universities in the deliverance of higher education is the result from their industrial production strategy, compared with the idea of craft and personal commitment between a professor and a student (Schlusmans, Koper, & Giesbertz, 2004.). Campus universities are based upon the craftsmanship of professors. The degree of task differentiation is low. The same faculty writes learning materials, delivers lectures, supervises students and takes exams. Mega distance teaching universities are characterized by an industry-like task differentiation. Courses are developed in interdisciplinary teams of professors, educational technologists and media designers. Trained supervisors are responsible for the supervision of students and examination takes place in specialized assessment centres. Under conditions like these, scaling to a mega university is possible, because of the limited number of highly trained professors who are needed. The training of the other faculty is much easier (Guri-Rosenblit et al., 2007).

At a global level, it is the combination of distance learning and e-learning that is promising. E-learning includes “a wide set of applications and processes, including computer-based learning, Web-based learning, virtual classrooms and digital collaboration. We define e-learning as the delivery of content [and interaction] via all electronic media, including the Internet, intranets, extranets, satellite broadcast, audio/video tape, interactive TV, and CD-ROM” (Urdan & Weggen, 2000).
Global differences

The potential contribution of IT support to quality (distance) education is beyond reach from many parts of the world: “Capacity for implementation (of IT) often appears to be inversely proportional to the perceived needs (Altbach et al., 2009). Urban areas, where admittance to regular universities is relatively good have benefited from World Bank investments in IT in Africa and South America. The 21st century shows a growing digital divide between and within rich and poor countries. In the Netherlands, about 80% of the whole population has a fast internet connection. In Africa, in average 5% of the population is able to use a (mostly) slow internet connection. Apart from the availability, the costs of connectivity differ also worldwide. A recent publication reveals a map of regional differences in the “ICT Price Basket” (International Telecommunication Union, 2010). These are the costs a combination of fixed telephone-, cellular phone- and fixed internet access costs as a percentage of the Gross National Income (GNI) per capita of a country. Or in other words: the percentage that an average inhabitant is spending on ICT (Figure 1).

![Figure 1 ICT Price Basket](image)

Several authors are denouncing the investments in ICT-enhanced learning in urban areas as the campus universities already are concentrated in the same areas (Day, 2005) In the late nineties the African Virtual University (AVU) emerged from a World Bank project under which video-conferencing centers, connected through satellite, were established throughout sub-Saharan Africa, mostly in already existent university campuses. Nevertheless, AVU has contributed significantly to the increase of the quality and the availability of higher education in Africa. Most mega universities have relied on rather traditional modes of delivery of materials, like printed materials, television, and radio (Gulati, 2008; Gunga & Ricketts, 2007; Sife, Lwoga, & Sanga, 2007). However, to compete with campus universities they feel challenged to increase the interactivity between students and professors. In emerging countries, the availability of computers especially in rural areas is limited. Even study centres that have a few computers have to cope with problems as irregular supply of electricity, limited possibilities of repair and theft. In addition, the main use of PC’s in education is e-mail and the internet. Electronic learning management systems and Learning management systems are virtually non-existent (Unwin, 2008).

New opportunities seem to come from an unexpected direction. In emerging countries, the use of mobile technology as an alternative for computers and the internet is explored and promoted. Proponents consider the use of mobile technology as a possibility to introduce Education 3.0. with its ample communication and...
personalization possibilities as an alternative for the lack of computers (Keats & Schmidt, 2007). The use of mobile phones is evident given the fact that in Africa, Latin America and Asia 2.2 billion mobile phones are in use. In Africa only, the number of people who has a mobile phone availability in increasing by 60% each year (Kumar et al., 1910). Consequently, a fast growing number of M-learning applications can be witnessed (Brown, 2002). Mobile phones were used to increase language proficiency as an extra-curricular activity and as a tool for education in mathematics. An application was developed that enables students to listen to Wikipedia content (Ford & Botha, 2007; Kumar et al., 1910). In experiments like these, children were provided with free mobile phones. M-learning might be promising, it still costs a lot of money. Average mobile cellular costs vary between 1.1% of GNI in Europe, to 16.7 in Africa ('regular' mobile phones, not broadband). Also, differences in prices are large. In Costa Rica, monthly cellular costs are 0.46% of GNI, as compared to 69% of GNI for citizens in Myanmar. However, mobile phone costs are coming down rapidly, especially in developing countries.

Taking into consideration the price, it is not surprising that the number of M-learning application in western countries outnumbers the applications that are applicable in emerging countries. In western countries, mobile connectivity is nearly total and telephones and other mobile devices are very advanced. Reviews of mobile learning projects however demonstrate dominance of the delivery of content and teacher control. Strangely enough the communication aspect is underdeveloped (we are talking about mobile phones!) (Frohberg, Göth, & Schwabe, 2009; Kukulska-Hulme, Sharples, Milrad, Arnedillo-Sánchez, & Vavoula, 2009). The authors conclude that the contribution of mobile learning to the increase of interactivity between students and teachers and students and students is only at its beginning. In experiments in Africa, the communication aspect seems to be more important (Ford & Botha, 2007). Others give an account of the extensive use of SMS-technology for educational purposes (Traxler & Leach, 2006).

The nearly general availability of fast internet connections, high performance computers and smart phones in Western countries enables a high degree of interaction between teachers, students and resources. One might even observe that the open and distance teaching universities do not use the full range of opportunities.

The Open University in the Netherlands has been involved in e-learning projects in African countries like Tanzania, Ghana, and Zambia. We had to rely on internet cafés with slow connections by phone and virtually no possibilities for printing. Together with local institutions we have developed low tech devices in order to improve interactivity. We felt that the use of these low-tech devices contributed to improve education because we always kept in mind the four criteria for quality in education.

**Enhancing quality in distance education with the help of low tech and high tech devices**

The second part of this paper describes approaches that use both high tech and low tech IT support in order to comply with each of the four criteria for quality education under conditions. These approaches are based partly at literature, at experiences that were collected during some field experiments in which the Open University in the Netherlands has been involved, and some of them are no less or more then conjectures. What is needed in the first place are educational designers who are willing to create viable educational approaches that can be used to implement quality education under conditions of low-tech IT support and governments who choose in favour of a large scale diffusion of low-tech IT support in stead of prestigious IT show-case projects (Altbach et al., 2009; Njenga & Fourie, 2010). In this way, in emerging countries the availability of education with basic quality can be increased significantly with the help of distance education (Anderson, 2007; Marshall, 2007).

In order to improve overview, the second part of this paper will consist of four sections that are written in two columns. The sections cover each of the four quality criteria, the columns the low versus high tech condition.
### Active learning

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<td>Active learning is based on a balanced delivery of content and assignments that support students to apply the content in their own life or in cases. Radio, television still are major tools in the distribution of content (Gulati, 2008; Leary &amp; Berge, 2007). Among others, the African Virtual University distributes videotapes and CD’s with lectures. These lectures could be accompanied by assignments in students’ home environment and by background information in the absence of books. Even in the most remote villages, equipment to watch CD’s – normally no educational ones – is in place. CD’s have one major advantage over radio and television; they can be used during periods when electricity is available! Mobile technology offers new tools. Quite a number of experiments have taken place with tutorials where students receive automated feedback by mobile telephones (Brown, 2002; Kumar et al., 1910). Mobile phones are also in use for the delivery of short instruction and material of a limited size (Traxler &amp; Leach, 2006) ‘Cross roads café’ is an interactive language course developed by the African Virtual University that is meant to be used in internet cafés.</td>
<td>In comparison with low-tech support, high-tech IT-support offers ample opportunities for active learning. Assignments are delivered in addition to the delivery of all types of materials (varying from written texts to audio and video fragments) and as soon students have produced the proper answers to these assignments, they can be submitted. E-learning in f2f and in distance teaching conditions enable teachers to automate the delivery of instruction and the transmission of information and reserve time for other purposes. Students are enabled to store their papers in an electronic portfolio that allows teachers to watch the progress and to judge whether students have coped with earlier feedback in a proper way.</td>
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### Frequent contacts between students and teacher

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<td>One of the best applications of M-learning is the submission by students of results of their assignment by mobile telephone (Brown, 2002). Mostly, the messages of students will be gathered in a mailbox and teachers can edit their commentary in messages for different group of students, based upon common mistakes or failures (Visser &amp; West, 2005). Feedback to students is possible also in educative radio broadcasts. In order to prepare feedback, teachers will listen to a selection of the submitted answers. Using an internet café is in some occasions an alternative for delivery of feedback by mobile phone. Using a computer allows students to submit more elaborate assignments, but the availability of internet cafés in rural areas is limited.</td>
<td>Bulletin boards and discussion lists offer extensive possibilities for students and teachers to interact in an asynchronous way. These devices are in particular useful if the interaction between students is valued in the same way as the interaction between students and teachers. In case of synchronic communication, it is possible to create virtual classrooms, where up to 10 people or more can talk and see each other’s. Albeit visual communication within larger groups then five persons still challenges the available bandwidth. In a virtual classroom, students can defend their assignments and the teacher immediately comments upon it. In addition, the virtual classroom offers superb conditions for project work, supervision, and doing research.</td>
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## Co-operation between students

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<td><em>In the first place, co-operation starts to stimulate collaboration between students in the same place. Collaboration of this type is limited often by the fear of free rider behaviour. However, a balanced approach is characterized by the alteration of individual and group assignments.</em> Collaboration between students from different places benefits highly from the use of mobile phones. Especially, if students are supposed to collaboratively create knowledge by solving problems in their own environment, they will benefit from incidental conversations by telephone (Keats &amp; Schmidt, 2007) Whether students communicate by forum, mail or phone, this process is improved significantly by the opportunity to see each others in study centres every now and then in order to have more in-depth conversations. African Virtual University has invested in the creation of study centres, although the number of study centres stays significantly behind the growing demand. Unfortunately, they are struggling with their ‘business model’ after World Bank funding ended.</td>
<td><em>At the high-tech side, the internet, and in particular Web 2.0 applications provide ample new opportunities for collaborative work. Social sites, like LinkedIn and Face book offer uncountable opportunities to participate in communities. They allow students to share resources for projects and other collaborative products. Sites like Delicious or Diigo will support social book marking.</em> At the same time, students in developed countries have ample opportunities to meet ‘life’ and consequently, the use of videoconferencing, skype stays behind the expectations. Meeting people is much more then the exchange of messages. Drinking together a cup of coffee or a glass of beer in the full experience of visual expression and body language often makes the difference.</td>
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## Personalization

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<td><em>Especially in adult learning, personalization of content and learning matter is a prerequisite for the growth of relevant competences. In emerging countries were even books are scarce, personalization seems beyond reach. The African Virtual University is developing a ‘digital library’ in which students will find manuals, study books and relevant articles. The number of computers and printers still is limited and therefore benefit for students is restricted (Guri-Rosenblit, 2010). Equally promising is an application for mobile phones that allows students to search in Wikipedia and subsequently to listen to the content (’audio wikipedia’). This application complies with the oral tradition in many African countries. Although these are isolated developments in an environment where education in the first place will be focussed at learning the basics.</em></td>
<td><em>High-tech learning support opens up nearly unlimited opportunities for individualizing students’ study paths. The Open Educational Resource movement, in connection with facilities like Wikipedia, Wikiversity and, Wikibooks makes available a mass supply of content. University supported star-systems will support students to select quality sources.</em> The main obstacle is not technology, but educational philosophy. Even at university the dominating focus is on predetermined study paths. Consequently students use handbooks that might be published recently but which content is based upon research from more than a decade ago. Making students more responsible for the search of their own content would not only be more motivating to many, but also could bring much more recent information into the classroom.</td>
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Summary
Worldwide, the availability of high tech learning support will grow very fast. At the same time, billons of people will have access only to elementary electronic learning support, if at any at all. Consequently, parallel to the exploration of high-tech learning support, the development, distribution and deployment of low-tech devices are necessary in order to deliver basic quality higher education in emerging countries to many students.

In making available higher education to many people in emerging countries distance education is a prerequisite. It is unfeasible to teach the required professors and to build the number of campuses that is necessary to satisfy the growing need for higher education in emerging countries. However, distance education will not meet the quality requirements that are associated with higher education without comprehensive use of electronic devices that enable interactivity between students, students and teachers and students and available resources.

This paper has contributed to answer the question how four major quality criteria can be met with the help of electronic devices. A distinction has been made between electronic devices that might be deployed at large scale in emerging countries and those devises which use is restrained to countries with a rich population. Three conclusions can be drawn. It will take decades before the availability of computers in emerging countries compares with rich countries, also because of the necessity to have a reliable supply of electricity and enough expertise to maintain the network. In the meantime mobile learning will be a growing substitute, especially in combination with an accessible network of study centres in the rural parts. In the third place a distance learning infra structure has to be developed that is characterized by an adequate mix of faculty (course developers, tutors and supporting staff) and that develops adequate didactic solutions to deploy the growing low-tech infrastructure.
Sharing Knowledge with the help of a safe communication climate

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Abstract: online courses provide an attractive alternative to professionals who would like to develop themselves further. As they are following the learning activities next to their work, the course needs to be designed in such a way that they are able to reap the highest benefit while not investing too much energy in understand the online learning environment. In addition, research has shown that the interaction between participants is an important aspect of learning. Based on a literature review, an evaluation model has been developed. This model is being implemented in a number of online courses at Maastricht University.

Introduction
The concept of lifelong learning has been around since the 60s (Armstrong et al., 2008). The increasing globalization and changes in the business landscape has pushed this concept into the centre of employee development (Mintzberg, 2004; Pence & Wulf, 2009) as companies strategic advantage arises from the knowledge and skills of employees. In order to stay competitive on the labor market an increasing number of professionals follow (part time) courses and programs (Cercone, 2008; Ke & Xie, 2009). However not all employees are able to do so. The major obstacles for professionals to engage in educational activities are the lifestyle, composed of work schedule and family commitments (Piirto, 2010). In order for everyone to have the opportunity to enlarge their knowledge and skills online courses have become popular. However, most literature on this topic focuses on success factors of online courses for (under)graduates (Päivi Tynjälä & Häkkinen, 2005). Nevertheless, they provide insights into general factors which influence the success of online courses. For one, interaction with peers, tutors and/or the technology has been shown to be an important predictor of satisfaction and learning (Rienties, Tempelaar, Waterval, Rehm, & Gijseelaers, 2006). This importance can be traced back to the social perspective of learning, which states that participants learn (i.e. create knowledge) by interacting with their environment (Quintana, Shin, Norris, & Soloway, 2006; Sawyer, 2006). The learning environment is composed of the learning platform, the learning activities and other elements. The “other elements” are people and tasks through which the learner is supported in the knowledge acquisition process. The learning environment is composed of a (virtual) place in which knowledge is acquired and a real world place in which knowledge can be applied. The support in both of these environments is important to achieve a deep understanding of the domain field (Hunt, 2006; Sosniak, 2006). Next to the support function the learning environment is also the place where learners construct knowledge. This construction happens through interacting with other participants (van Den Bossche, 2006; Tenenbaum, 2001).

While social interaction plays a dominant role in creating successful learning environments it is also necessary to analyze the needs of the learner. As in this case they are professionals, adult learning theory provides insights into what factors are important for this group of learner. Important aspects of adult learning theories are the description of adult learners with regard to their ability to guide their own learning process, the learning activities they find engaging and the necessary link between the learning content and the work activities (Huang, 2002; Knowles, 2003; Merriam, 2001). As these are the characteristics of the target population, the research is going to adopt adult learning theories as its main perspective in order to create an evaluation framework. In this evaluation framework, the interaction between participants is the focal driver behind learning. This leads to the following research questions: 1. “What level of teacher support and safe communication climate is needed for participants to share knowledge?” 2. “Does knowledge sharing lead to knowledge construction?” and 3. “What task design features influence professionals to

Theoretical Framework
Several theories try to explain how professional learn and how this differs do “traditional students” (i.e. full time participants in tertiary education who enroll in a program after completing secondary education). Tynjälä and Häkkinen (2005) reviewed the major theories and outlined a number of recurrent factors: 1.
learning through personal reflection, 2. learning is a social process, 3. a problem orientation to learning activities; 4. learning is organized to support the organization and 5. learning activities need to be delivered in a flexible manner. Research on professional education has shown the importance of building knowledge together via communities of practice and other forms of collaborative learning activities (Brown, Collins, & Duguid, 1989; Rehm, Gijsselaers, & Segers, 2010; Wenger, 1998). Due to greater amount of work experience, professionals are used to engage in learning when they are presented with a problem. As it is the company who organizes and supports the learning activities, organizational learning theories provide important insights for the design of courses (Psivi Tynjälä & Häkkinen, 2005). Those theories stress the importance of individual learning as the building block of organizational learning (Senge, 1990). Next to this, the organization needs to be ready and supportive of individual learning (Slotte & P Tynjälä, 2005; Waight, Downey, Wentling, & Arvidson, 2008). Lastly, due to the commitments professional have the learning activities need to be offered in such a way, that participants can decide the learning pace and time (Booth, Carroll, Papaioannou, Sutton, & Wong, 2009; Hutchins & Hutchison, 2008; Slotte & P Tynjälä, 2005)

Two influential learning theories are Kolb’s experiential learning theory (Kolb, 2003) and Mezirow’s transformative learning theory (Mezirow, 1997). The first one regards learning as a cyclical process in which learner alternate theoretical knowledge acquisition with practical experience. Learning happens through the reflection of theory and practice. The basic idea behind this learning theory is that the learned content should have a tangible feeling to it. The aspect of reflection in the learning cycle connects to transformative learning. This theory was developed by Mezirow (1997) and states that learning happens through reflecting on one’s assumptions. The basis of transformative learning is one’s mental model of the world. This mental model is composed of habits, abstracts way of thinking and points of view which guide our daily behavior and influence our attitudes (Mezirow, 1997). Learning happens in this theory if you are provided with an opportunity (i.e. the experience) to elaborate on current point of view or create a new one. Learning which results in personal growth happens if your frame of reference changes. This happens due to depth of reflection on experience (Argyris, 1991; Mezirow, 1997). By changing the frame of reference, the behavior, beliefs and attitudes have to change, as they follow from it. Through this, a person develops him/herself. The learning theories have a strong emphasis on reflection and experience as triggers for learning. One aspect which is missing in both of them, but mentioned by Tynjälä and Häkkinen (2005) is the social aspect of learning. The following section will elaborate on it.

The past section described important aspect of professional learners. An aspect which was not explicitly mentioned but can be inferred from the theories is that learning happens in a social setting (Boud & Walker, 1998; Mezirow, 1997; Zimmerman, 2006). This makes learning a “social activity". This social aspect of learning is clearly inherent in the constructivist perspective of learning. The essence of this approach is that learning is not the transmission of knowledge from expert to novice, but a process in which the learner “constructs" his/her knowledge base (Rovai, 2004; Tenenbaum, 2001). The base for the construction of knowledge is the learner’s interaction with objects in the learning environment and his/her resulting adaption of and to the environment (Tenenbaum, 2001). Through interacting with the learning environment, the learner formulates rules and strategies which help him/her “survive” in the learning environment. The source of knowledge is therefore the personal experience of the learner. This implies that if two learners work together they have to find a common ground (i.e. a common understanding of the learning environment) in order to construct knowledge together (Tenenbaum, 2001). Past researches in online courses reveal that social interaction has a positive impact on learning (Hull & Saxon, 2009; Ke & Xie, 2009; Rovai, Wighting, Baker, & Grooms, 2009).

A prerequisite which is not often touched upon in the analysis of online courses is the degree of knowledge sharing in the group. The level of knowledge sharing has been repeatedly shown to influence the level of knowledge creation in groups (Gibson & Gibbs, 2006; de Vries, 2006; Wasko & Faraj, 2005). This is explained by Nahapiet, Ghoshal, and Eric (2000) who outline how and in what way new knowledge can be created thanks to the exchange of information between two individuals. Such an exchange also needs to happen in learning communities. By discussing the learning material with others, participants become aware of each other’s problem definition (Cronin & Weingart, 2007; Hull & Saxon, 2009). If the group establishes that the individual problem definition does not converge, individual participants need to present arguments for their definition or relinquish it (Hull & Saxon, 2009). If this conflict in individual’s perspective is resolved, the team arrives at a common understanding of the problem and solution path (van Den Bossche, 2006; Hull & Saxon, 2009)
Model Framework
In the previous two sections the basis for the evaluation framework was explained. The main concepts of professional learning and the social aspect of learning were outlined. These two sections provide the ground for the evaluation framework. The focus of this framework is the communication between participants.

Interaction between participants is seen as an important factor in online courses, as it is through this interaction that participants exchange their perspective on the problem and therefore engage in team learning. It is argued that social interaction happens naturally when people get together (Zhang, Scardamalia, Lamom, Messina, & Reeve, 2006); however the interaction needs to contribute to the knowledge in order to have an impact on individual learning (Ma & Yuen, 2011). But learning is a risky task: Learner’s expose themselves to personal and interpersonal risk (Edmondson, 2003). Personal risk occurs when a learner runs the risk of appearing ignorant by asking questions. Interpersonal risk appears when an action can strain the relationship with others (e.g. if people ask for help or point out mistakes). Such activities are very likely to happen in a learning situation. Therefore, the first step in ensuring that learners can flourish in the learning environment is to create an environment in which risk can be taken. In online courses such a safe environment manifests itself in the team’s communication climate. A communication climate is defined as accepted communication behavior between individuals (Hooff & Ridder, 2004). Research has shown that communication climate which are characterized by psychological safety, openness, vertical and horizontal communication flows and reliability of information are conductive to the distribution and creation of knowledge in a group (Ali, Pascoe, & Warne, 2002; Gibson & Gibbs, 2006; Hooff & Ridder, 2004).

Building on a safe communication climate the following step is to examine the degree of knowledge sharing. Knowledge sharing is important for the learning process. This is exhibited in learning theories such a communities of practice (Wenger & Snyder, 1999) or in the concept of storytelling (Brown et al., 1989). Both ideas suggest that by interacting with people who are working in the same field it is possible to build on one’s knowledge base (Scardamalia & Bereiter, 2006). Knowledge sharing enables learning, because through it knowledge – may it be tacit or explicit - is distributed to other individuals (Nonaka, 1994). Therefore, the degree with which knowledge is shared has an impact on how much knowledge the group and therefore the individual builds (Decuyper, Dochy, & Van Den Bossche, 2010; Hooff & Ridder, 2004; Lee & Roth, 2007)

The discussion until now only looks at the interaction between learners in the learning environment as a source of learning and therefore an interesting aspect for evaluation. However, learning is not confined to interaction between individuals. Learners engage in assignments and are supported by different people. In order to complete the picture of how individuals learn in an online course, course design aspects are also taken into account. This evaluation framework focuses on three aspects of course design: perceived quality of learning environment, learning tasks and quality of feedback. The online learning environment needs to be perceived to be easy to use. Research has shown that if participants encounter a steep learning curve in order to deal with the technology, the drop-out rate is increased (Tyler-Smith, 2006). To investigate if the online learning platform suits the needs of the participants, its ease of use and ability to support participants’ learning is analyzed. As the framework is going to be implemented in online courses for professionals, the questions dealing with activities focus on types of learning tasks which professionals experience as stimulating. In this regard attention is paid on the activation of prior knowledge, integration of experience and theory and on the authenticity of assignments. Those characteristics are in accordance with adult learning theories discussed earlier. They connect theory to practice, make use of professionals’ prior experience and offer relevant tasks (Knowles, 2003; Kolb, 2003; Merriam, 2001).

Next to task design and learning environment, course design also includes a section about support participants receive. Support here takes the form of feedback from tutor and peers on learning outcomes. Through receiving feedback from tutors and peers, learners are made aware of their impact on the learning environment and are better able to regulate their future actions (Rovai, 2004; Zimmerman, 2006). Feedback need to be formulated and delivered in a specific manner in order for it to be effective for learners (Lizzio & Wilson, 2008).

The aspects discussed in the previous two paragraphs highlights the sequence of factors which influence learning. A psychological safe communication climate forms the beginning of the chain. This is a necessary characteristic for knowledge sharing to appear. Once knowledge is shared between course participants, they need to engage with each other, in order to collectively build on each other’s information. Through this, they achieve an understanding of the domain and therefore learn. This process is supported by a fitting course design. Figure 1 depicts the model discussed.
Setting
This study was conducted at Maastricht University within the project “Learning & Working”. The project aims at developing online courses for professionals at all faculties. Every faculty is given the freedom with regard to the employed technology, course design etc. In this way, different scenarios will be developed depending on the design of the online course and the academic field in which it is embedded. In total twelve different pilots were created. They share a few common characteristics which can be grouped into outcome, technological, task, group and learner characteristics.

Outcome Characteristics: All of the courses have the same outcome characteristics. It focuses on the individual achievement of participants with regard to knowledge acquisition. This outcome is determined by the teacher and is measured directly at the end of the course.

Technological Characteristics: The courses make use of an exploratory environment with productive tools (Lou, Abrami, & D’Apollonia, 2001). An exploratory environment allows participants to learn “with” technology instead of “from”. Productive tools fall in the same category than exploratory environments, but there application is more specific as it gears towards a specific use (e.g. Skype for communication). The environment used in the pilots is SURFgroepen and Blackboard 9.1. Both of these tools are designed for educational purposes and allow courses to be designed online and groups of students to collaborate in the environment. Due to the explorative nature of the learning environment, the program does not provide any feedback nor does it control the instruction. In most courses collaborative activities are build into the course design and supported by the online environment. Teacher support is provided. In four cases face-to-face meetings are incorporated in the course.

Task Characteristics: As several faculties are offering the online courses, considerable variety exists with regard to the task characteristics. The common features are the focus on factual learning and/or problem solving and open tasks. Around half of the courses do not have group assignments. The majority of courses are offered on an intermediary level. In some cases, it is assumed that participants have prior knowledge of the subject matter. In other cases, while the theoretical knowledge may be new to participants, they have been working in the field for some time and therefore have an experience based understanding of the field.

Group Characteristics: Group characteristics also vary widely between courses. In most cases where groups are used, they are composed randomly. In the other cases, group composition depends on location, thesis supervisor or research topic. If a specific group learning strategy is applied by the course designer then this is problem-based learning (PBL) or a variant of it.

Learner Characteristics: Participants in the courses are predominantly professionals who have been working in the field for some time. Three courses focus specifically on (part-time) bachelor and master students. In four courses learners participating in the courses are spread over the world. In the other courses they are restricted to being from Europe. In two cases the course is build only for Dutch speaking professionals. One course has at its core the cooperation between two countries.

Figure 1: Evaluation Model
Analysis
At this point in time, only one pilot finished. Table 2 provides a short description of the pilot based on the characteristics outlined above. In summary, the course is built as a self-study course with weekly meetings to discuss the material.

Table 1: Pilot description

<table>
<thead>
<tr>
<th>Pilot Characteristics</th>
<th>Pilot 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Outcome Characteristics</td>
<td>Individual, determined by teacher</td>
</tr>
<tr>
<td>Technological Characteristics</td>
<td>Explorative learning environment, video conferences/discussion board, web lectures</td>
</tr>
<tr>
<td>Task Characteristics</td>
<td>Factual knowledge, individual assignments</td>
</tr>
<tr>
<td>Group Characteristics</td>
<td>None, groups are not formed</td>
</tr>
<tr>
<td>Learner Characteristics</td>
<td>Professionals (see Table 2)</td>
</tr>
</tbody>
</table>

Table 1 shows the descriptive results for this course. The demographic variables show that the average age of participants was 30. Most of the participants were female, had received a master degree and were in an entry position at their company. On average participants had nearly 6 years work experience.

While the expectations regarding the level of interaction between participants and with the tutor were surpassed, the workload and amount of self-study was slightly lower than participants expected. The learning environment was also perceived to be easier to use than expected.

Participants were highly motivated to learn, but less to transfer the learned skills. In addition, participants also do not receive full support from their managers. Regarding the course design features, participants judged the aspects related to finding information in the learning environment and the influence the environment has on their learning as slightly negative. Task design features and teacher support are evaluated neutral.

The social aspect of learning received neutral to positive scores. While they experience the communication climate as positive, knowledge was only shared minimally.

The outcome variables show that participants are not satisfied with the course, however judge that they learned a lot.

Table 2: Descriptive Analysis

<table>
<thead>
<tr>
<th></th>
<th>M</th>
<th>SD</th>
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<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>30.10</td>
<td>4.01</td>
<td>Course Design</td>
<td>2.83</td>
<td>1.42</td>
</tr>
<tr>
<td>Gender</td>
<td>1.60</td>
<td>.52</td>
<td>Task Design (authentic)</td>
<td>3.14</td>
<td>1.57</td>
</tr>
<tr>
<td>Education</td>
<td>2.90</td>
<td>.32</td>
<td>Task Design (activation)</td>
<td>3.23</td>
<td>1.41</td>
</tr>
<tr>
<td>Employment level</td>
<td>4.80</td>
<td>1.55</td>
<td>Task Design (integration)</td>
<td>3.34</td>
<td>1.33</td>
</tr>
<tr>
<td>Work experience</td>
<td>5.88</td>
<td>2.75</td>
<td>Teacher support</td>
<td>3.00</td>
<td>1.53</td>
</tr>
<tr>
<td>Expected interaction between participants</td>
<td>3.29</td>
<td>.76</td>
<td>Communication Climate</td>
<td>3.59</td>
<td>1.19</td>
</tr>
<tr>
<td>Expected Interaction with tutor</td>
<td>3.14</td>
<td>.69</td>
<td>Knowledge sharing</td>
<td>3.27</td>
<td>.96</td>
</tr>
<tr>
<td>Expected workload</td>
<td>2.43</td>
<td>.79</td>
<td>Group learning behavior</td>
<td>3.35</td>
<td>1.18</td>
</tr>
<tr>
<td>Expected Self-study</td>
<td>2.71</td>
<td>.76</td>
<td>Satisfaction</td>
<td>2.43</td>
<td>.69</td>
</tr>
<tr>
<td>Expected ease-of-use of Learning environment</td>
<td>2.43</td>
<td>1.13</td>
<td>Learning</td>
<td>3.80</td>
<td>1.60</td>
</tr>
<tr>
<td>Motivation to learn</td>
<td>4.14</td>
<td>1.08</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Motivation to transfer</td>
<td>3.36</td>
<td>1.49</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Managerial Support</td>
<td>3.48</td>
<td>1.62</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Discussion
Based on the descriptive analysis it can be said that even if the learning environment was not designed optimal, participants judged that they learned a lot during the course. Another interesting aspect to note is that while participants experienced the communication climate as positive, knowledge sharing and group learning processes have lower scores. The reason for this could be that the course has a stronger emphasis on individual learning. The weekly video conference session and the discussion board could have provided space for team learning. However it seems that they were more used as Q&A sessions with the tutor.

A striking finding is the difference between satisfaction and learning. This fits the conclusion by Cheng and Hampson (2008) who argue that satisfaction and learning do not have to be related. A possible reason for the difference in those two outcome variables could be that participants’ expectations of the course were not met.

Conclusion
The study presented in this paper analyzed if the online courses offered a safe communication climate for professionals to learn. As to date only one course finished, the data does not allow to make conclusion based on the evaluation model. However, the descriptive analysis already showed that participants expected a complicated online learning system with few opportunities to interact with others. Those expectations were not met. While the course had a strong emphasis on self-study, participants still experienced a safe communication climate existed between them.

References


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Concepts of Ethological (Natural) Leadership in Elite Management Education

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Abstract: This paper presents an innovative pedagogical activity, entitled Horseplay, designed to proffer an experiential and sensorial approach to Leadership training in elite management education. Championed by a small group of international students from Grenoble Ecole de Management’s Masters of Science in Management Consulting, the initiative is inspired by principles of equine ethology - or natural horsemanship (Parelli, 1993). While defining arguable correlations between the social and behavioral traits of Man and the Horse, we describe the merits and characteristics of a cooperative working relationship that has existed since time in memorial. We then proceed to draw parallels between horse-human relations and Managerial Leadership (Wright, 1996). Using horses as backdrop and medium, the bespoke activity offers an experiential learning setting that hones participants’ aptitudes for, and understandings of, soft skills (interpersonal communication), and lends toward the definition of a model of Natural Leadership inspired by self-awareness, clear direction, mutual trust and respect.

Preamble
In the aftermath of the 2007-2010 financial crisis, just as signs of economic recovery emerged in the US, elite business schools worldwide took an introspective look at their purpose and mission in disguise of acknowledging their alleged role in the global economic meltdown. Meanwhile and in 2008, workplace suicides in the US were reported by the popular press to have surged by 28% since the previous year and in France, a report commissioned by the Ministry of Labor accused highly selective French business schools, les grandes écoles, of churning out emotionally deficient technocrats, incapable of leadership and empathic management.

Hailed as the collective conscience of the business community, crème-de-la-crème management education institutions embarked on a soul-searching journey to circumscribe evident shortfalls in the business education they deliver. Besides deciphering the intricacies of finely tuned financial instruments and guiding budding managers through the meanders of organizational designs and conceptual business models, prestigious business schools are seeking to inspire ethically responsible individuals who will positively contribute to a business culture that will ultimately better serve the economy and society as a whole.

From the perspective of curriculum development, institutions have accepted that Leadership, Ethics, Change and Transformation Management, Managerial Diplomacy contribute to building a more socially responsible and generally more respectful – and by extension, respectable and therefore respected - business community. However acts of teaching and learning in these domains still remain daunting and loosely defined. Substantiated examples and tangible expressions of managerial deontology, consensual decision-making (as opposed to rational problem solving), motivational people management, are largely reliant on learners’ aptitudes for, and their understandings of, Soft Skills which, in paradoxically simple terms of communication, can be resumed as one’s capacity to listen, inform, explain and convince.

In June 2010, a report edited by l’Institut de L’Entreprise, le Cercle de L’Entreprise et de Management and le FNEGE (1) echoed feedback gathered by the careers service and professional advisory board of Grenoble Ecole de Management whereby employers deplore the overall performance of graduates in simple interpersonal skills. Soft skills, and the development of pertinent experiential learning settings that would adequately reflect their application, thus forged their way to the forefront of the pedagogic challenges facing the highly ranked French Business School.

In rising to the challenge, Grenoble Ecole de Management, pioneered an innovative pedagogical approach to Leadership, inspired by the principles of equine ethology (more popularly known as natural horsemanship).
Associating Equine Facilitated Learning (EFL) to Leadership in Management Education

The idea of using horses to train managers could seem perfectly logical given the etymological origins of the word ‘management’. It comes from the Latin manus, hand, via the Italian maneggiare, i.e. the art of training horses in a manege; yet, the reasoning goes beyond the fortuitous linguistic anecdote.

To begin, horses are domesticated animals that have been subservient to Man since time in memorial. The exact era during which horses became domesticated animals, i.e. animals tamed and made fit for the human environment, is still largely debated. Although these discussions give rise to as much speculation as they do incertitude, Leblanc, Bouissou & Chéhu (2004), conclude on general consensus from the scientific community that the domestication of horses took place between 4000 & 3000 B.C. The American anthropologist, David Anthony, relying on fossil evidence of a horse having worn a mouth-bit, discovered on the archeological site of Deriekva in Ukraine, defends that the horse became the working partner of Man between 4500 and 3500 BC. Thereafter, horses accompanied the evolution of civilizations by facilitating commercial trade, contributing to territorial expansion and flattering human ego by symbolizing empowerment and wealth. Through the ages, the horse thus became the epitome collaborator of Man.

Secondly and in contrast, the use of horses in Learning is recent, but acknowledged (Bates, 2002). In 1969, the North American Riding for the Handicapped Association (NARHA) recognized the therapeutic value of physical contact with horses for differently-abled (as opposed to disabled) individuals. The benefits yielded from this sensorial contact soon reached out beyond the physical realm, and a number of organizations offering psychotherapy and learning partnering with horses began to emerge, under the guidance and impetus of the Equine Facilitated Mental Health Association (EFMHA).

Thirdly, like Man, horses are social animals (Leblanc et al., 2005). Their social structure is established as a herd with inherent sub-groups managed by group leaders, who are determined by way of a three-fold combination of competence, trust and respect that is recognized and acknowledged by peers. Despite domestication and unlike cats and dogs for example, the horse has nonetheless preserved its inner nature as a prey animal, whose reactive instincts in terms of notions of immediacy and sensorial perception remain intact. The integrity of a horse’s reactions is therefore whole and void of interpretation or resent. Thus, they reflect a very true picture of the signals received. They are quick to respond to changes of energy and give instant feedback with regard to the impact of peripheral physical presence. In consequence, when facing signals of human intention, the horse is naturally inclined to perceive Man as a predator. As a prey animal, its instinctive reaction would be to flee predatory behavior and seek comfort and safety in the shadows of a herd leader. Paradoxically therefore, the horse resembles Man in this respect, recalling the principles of Maslow (2). But even more paradoxically, in the absence of the herd, the horse has no other choice than to seek reassuring leadership in the humans that inhabit the un-natural, domesticated environment to which it has become servile.

It is hence the coming together of three factors – the position of the horse as the quintessential working subordinate of Man, the psychological merit of the horse as a pedagogical mediator, and parallels that can be drawn between the social structures and leadership needs of horses and those of humans - that underpin the Horseplay initiative.

The Horseplay Activity

The pedagogical activity was designed to provide an original, ex-situ, leadership and team-building experience to groups of international students (10 nationalities) enrolled in a Masters of Science in Management Consulting at Grenoble Ecole de Management. We chose the name Horseplay for its equivocalness. On the one hand, the activity is built on the playful pedagogic and ethological foundations of the Seven Games of Natural Horsemanship, a home study horse-training program developed and introduced to Europe in the 1980’s by Pat Parelli. While in contrast, the term Horseplay echoes the rough-and-tumble antics that can constitute interpersonal relations in today’s stressful and stake-bearing business environment.

The activity commences with a short brainstorm over the condition of the Horse in today’s modern society. It is worthy to note that despite national and cultural diversity, the group converges unanimously to define the horse as the epitome of power, strength, wealth and nobility. All the more interesting therefore to juxtapose the populus’ mind’s eye to that of the true condition of the majority of horses as big, yet fragile, placid creatures vowed to various forms of commercial servitude (show-jumping, racing, riding schools,
tourism and the like). The servile nature of their condition thus directs the group toward the fulfillment of the horse’s physiological and psychological needs in order to reach the levels of performance desired by Man and seamlessly, toward analog servility of Employees and economic performance in business.

The group then pursues the analogy through the observational study of horses in varying degrees of autonomy: in a herd (controlled liberty in a field, with natural division into competence-based subgroups), in the stables (individuals living together in organized, structurally determined groups), in a schooling ring (3 or 4 individuals in semi-liberty evolving autonomously as a group). Such situations and contexts lend themselves to comparison with the workplace and organizational behaviors. Thus, participants effortlessly draw parallels between the dynamic of the herd and that of group structures in business organizations (Robbins, 2005) and recall the psychological explanations offered by Robert Bales (1950) regarding an individual’s ‘need for order’, and ‘low tolerance of ambiguity’. They muse at the benevolent, yet dominant behavior of herd leaders, not least because in the horse world, leaders are well experienced mares… heartening news, indeed, for Fiona Wilson (2002)! And, they reflect on the notion of competence-based leadership and the impact of the environment on leadership relations and structural politics (Robbins & Judge, 2007). Very quickly, participants begin to question their own capacity to lead.

Finally therefore, the participant engages in a one-on-one dialogue with the horse, where in effect, he/she positions him/herself as the leader of the horse-human couple (herd). The activity then consists in directing the horse through a certain number of exercises, encouraging it to assume certain postures that can only be achieved if the human is recognized as the couple’s leader. And this is precisely where the adage: ‘you can lead a horse to water, but you can’t make it drink’ finds resonance. The games unfold in sequence where the horse, with the help of its leader, is required to adapt to situations such as being confronted with a noise or a scary object (Friendly Game) or follow its leader across a narrow path between a fence & a tree (Squeeze Game) – extremely uncomfortable for a claustrophobic animal such as the horse. In the business world these situations can metaphorically translate as learning how to gauge the resilience of colleagues or encourage them to surpass themselves and deal with difficult situations to which they would naturally be resistant.

Through this series of incremental games and exercises, participants thus explore their own self-awareness and capacity to give clear direction and inspire trust and followership (see Parelli, 1993 & Irwin, 2001).

**From Horseman-ship to Leader-ship**

While understanding leadership theory is important, the numerous approaches to studying leadership - trait, behavioral, contingency, transformational etc… (Bryman, 1997), have failed to reveal a dominant theory (Fernandez, 2005). Moreover, in 2000, while receiving an award at the annual meeting of the Academy of Management, Henry Mintzberg, Professor of Management at McGill University, scoffed ‘You can’t create a leader in a classroom’. Traditional classroom settings rely heavily on deductive reasoning processes, lateral bottom-line thinking, and rationalist approaches to managerial problem-solving. The mere act of remaining passively seated in a classroom rarely trigger intuitive and impromptu behavioral responses, although recent advances in coaching training and leadership studies have made some headway in promoting the development of intuitive leadership through games and psychometric tools (Pritchard 2009). Following in the path of Heifetz (1994), Parks (2005), with her ‘case- in-point’ approach to leadership training, also sustains that ‘leadership can be taught’.

It seems logical, however, to assume that if leadership is behavioral, learning about leadership needs to be experiential. It therefore follows that such experiential training needs to be memorable enough to be subsequently applied.

“Once an event is embraced by our senses, the more novel or new the experience is, the stronger the signal to the brain. The stronger the signal, the more likely the memory is to be stored long-term. What determines the strength of the signal? The extent to which we consider the event to be new, unpredictable, out of routine, uncommon and unfamiliar. Because our senses are so involved in any new experience, it is the novel combination of cumulative sensory information that pushes the familiar threshold of the nervous system and bombards the brain with an abundance of new inputs” (Joe Dispenza, 2008).

This is precisely where the Horseplay concept can respond to a significant learning gap. The extra muros setting of the stable, the unsettling proximity of large and powerful animals, and the need to interact
intimately with them all contribute to creating a setting where intellect and rational processes are not so useful.

According to Warren Bennis, ‘Leaders are people who are able to express themselves fully... They know what they want and how to communicate what they want to others in order to gain their cooperation and support’ (Bennis, 1998). Doyle and Smith (1999), however, question to what extent a leader would be exceptional in this regard. Besides, much of the communication of managerial leaders relies tacitly on the limitless non-verbal signals humans exchange continuously, as evident in the path-breaking work of Ekman on micro-expressions (Ekman 1975). Devoid of verbal communication, the sensorial experience of leading horses emphasizes the power of body language and gives participants a very clear reflection of the energy, intention and emotions they project on others.

Towards Natural Leadership
Horseplay contributes to leadership training by reaching beyond theories and simulations of traditional business leadership contexts and places the participant in a tactile, sensorial role of the leader of a herd. Empathic exchanges with the horse— or using what Daniel Goleman calls ‘social radar’—is the only means to achieve the goals set out by the exercises in the concept. Participants delve deeply into their self-awareness to discover notions of connectivity (obtaining the attention and cooperation of the horse), desensitization (familiarizing the horse and oneself with respective virtual and physical acceptance zones), energy (adapting the levels of energy required, and subsequently engaged, in order to achieve positive and cooperative response), opposition (clarifying the mechanisms and degrees to which the horse will resist a command and how to offset opposition reflex), balance, rhythm and phasing (in the expression of commands). The ultimate outputs lead to a relationship of mutual trust and respect between leader and follower.

The notions explored in Horseplay are not novel to Leadership theory per se. Many of the qualities emanating from the Horseplay experience can be found in the attributes, characteristics, styles and situations modeled by Gardener (1989), Hersey and Blanchard (1977) or Burns (1977). Termed and illustrated differently however, the concept reveals an authentic and compelling, sensorial leadership experience, confronting participants with their natural capacity to lead. As observed by Michelle Mielly, Grenoble Ecole de Management’s Director of MSc Management Consulting program:

“Spending an afternoon observing Master’s students interacting with the horses, communicating and leading them—in some cases being led by the horse—revealed to me the deeper implications of working with one’s ‘gut’ to find solutions to problems in improvisational scenarios. ‘Getting to yes’ with a horse—shall we say ‘yea or neigh’—is much more dependent on one’s empathic ability and the gift of putting oneself in the hoof-prints of others’.

Conclusion
Using horses as backdrop and medium, the Horseplay initiative contributes to bridging a teaching and learning gap in the transfer of proficient communication skills in business education and offers a novel and authentic context within which participants can explore their Natural Leadership skills. Inspired by their own self-awareness, participants hone their capacity to offer clear direction and promote mutual trust and respect between themselves and their followers (irrespective of whether they are human or not). Ultimately and with further research, the initiative will aim to develop a methodology for training emotionally intelligent, ethically and socially responsible graduates, whose empathic Leadership will serve the economy and society as a whole.

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Rethinking Leadership Education in the Age of Globalization: Towards a Multifocal Leadership Model

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Abstract: This paper introduces a multifocal leadership model for educating leaders that can function in a variety of cultural contexts. Over the past decade, businesses have become so complex and multifaceted that leadership theories that focus on mono-cultural relations are inadequate in dealing with leadership challenges in the 21st century. While a theory of leadership based upon intercultural or cross-cultural relations has yet to be explicitly formulated, there is recent awakening in leadership studies to re-examine Eurocentric, positivistic leadership models which regard all social systems as susceptible to Eurocentric analysis and measured in terms of Eurocentric generalizations and objectification of indigenous ‘other’ cultures. In this paper, I attempt to reformulate the concept of leadership by introducing a multifocal leadership in accordance with a different, non-Eurocentric and non-objectification emphasis that dimensionally explores and adopts a wider perspective for examining leadership and locating it within a taxonomy to the questions of intercultural relations.

Introduction
Contemporary leadership is in a state of flux. The global, multicultural society is rejecting forms of leadership based on Eurocentric models that prematurely characterize all social systems as universal (Razik and Swanson, 2001; Shields, 2003). The abstract and formal quality of Eurocentric leadership models have led to the inability of leaders in cross-cultural situations to engage with the aims and aspirations of their followers. The process has licensed a suppression of indigenous cultures and the idealization of Eurocentric cultures. In a global context, there is a need for new forms of leadership that are based on mutuality rather than the cult of ‘scientific management’ or Weberian bureaucratic rationality. Concentration upon the global emphases of this conference enables the place of leadership to be examined within a global context. Such an examination clarifies what is distinctive to multicultural, cross-cultural, and intercultural leadership as a major part of bridging multiple worlds in business. This paper seeks to clarify some of the challenges to the supremacy of Eurocentric theories of leadership as well as espouse newer forms of leadership based on more reciprocal, less coercive cultural relations. The emergence of what has become known as the knowledge and information age, as an important aspect of the global international system calls for a more comprehensive and less parochial form of leadership analysis than that is based on economic globalization (Klerides, 2009). This in turn has thrown up the latent challenges to a slavish imitation of Eurocentric models for all societies. One of the most important of such challenges is the problem of leadership education, a problem that many expect to be solved by business schools in universities and colleges, but which have intractably resisted such solutions.

I will be relying upon certain developments in contemporary social theory, particularly in the area of micro-social theory and praxis and drawing largely on the work of Mead and Blumer. I argue that a major difficulty of businesses in cross-cultural situations is the wholesale borrowing of a corporate form of leadership that has tended to be marginal or subsidiary to the overall problems facing indigenous communities. The effectiveness with which leaders fulfill their mission cross-culturally depends on their understanding of themselves and those cultural environments in which they operate and acquiring the competence that would enable them to function successfully in intercultural and cross-cultural environments. While the corporate form of leadership, dependent on scientific management, has been extraordinarily potent in assembling capital, skill and manpower for production and distribution in industrialized urban societies, it cannot produce the same kinds of results in contemporary cross-cultural global contexts. A departure from much previous work in the field, this paper is an attempt to impart a multifocal leadership model that offers the ability to think, feel, and act in ways that acknowledge, respect and build upon ethnic cross-cultural and intercultural relations. In what follows, I briefly discuss some of the leadership models that have formed the basis of leadership education and training in the 20th century.
20th Century Leadership Theories
What appeared in 20th century leadership studies is a strange image of “powerful, dynamic individuals who command victorious armies, build wealthy and influential empires, or alter the course of nations” (Jazzar and Algozzine, 2006, p. 169). The vast literature dealing with administrative theory in various organizations demonstrates confidence in individual leadership, a leadership strongly tied to, if not imprisoned in objective and impersonal policies and socio-economic laws. Inevitably, in the second half of the 20th century organizational leadership forced itself increasingly to the attention of social scientists. If economics provided the mainstay of analytical leadership in the last century, another and different aspect of leadership in the 21st century “based on bottom-up transformation propelled by shared power and community building” (Jazzar and Algozzine, 2006, p. 170) gives a fillip to a quite contrary tradition. Accordingly, in an attempt to understand the problem of leadership in the 20th century and to prescribe solutions for it, it was hardly surprising that western social scientists drew upon the experience of their own societies. We have learned over the past decade that businesses and leadership are much more complex and multifaceted than had been assumed. Certainly, leadership theorists that focus on cross-cultural relations are relatively rare. Although Deal and Peterson (1994, 1999), Shields (2003), Jazzar and Algozzine, (2006) have dealt with cultural analysis it is not certain how central their work is to leadership analysis. Hence we know relatively little in leadership studies in the intercultural and cross-cultural contexts. However, intercultural and cross-cultural treatise of leadership finds its strongest justification in recent discussions of the realities of the global business world as the present century has witnessed the transformation of international interaction of industrial-traditional kind into something much more socio-cultural oriented. As will become much clearer as the analysis proceeds, it depends on the cultural group in hand just what kind of leadership will deal with the general complex of relations within the organization.

Arguably, the 20th century represented the apogee of Weberian bureaucracies that displaced traditional forms of organizations (Welch, 1993). The virtues or vices of the various 20th century leadership theories are not here under discussion. Their relevance is only to illuminate the sociological generalizations about leadership and phenomenal variables to which leadership is associated. This will help to demonstrate how 20th century leadership theories influence time-honoured traditions that serve as impediments to change in leadership preparation. What then, is distinctive about 21st century leadership is that within the context and through the facilities of rapid knowledge-communication-networks national, international and supranational participation in a global international business system have all increased to an extent that makes it necessary to comprehend the analysis of culture and its relation to leadership. This paper is an effort to press for a greater interest in a model for multifocal leadership—that is, leaders that can function in a variety of cultural contexts. What is particularly missing in traditional Eurocentric leadership theories is that they pay little or no attention to the question of cultural differences, or the ethic and politics of cultural interaction (Welch, 1993). Within the Eurocentric paradigm, leadership equals a unilinear process of management that allows little or no space for the culture of followers As Razik and Swanson (2001), who, in reference to the failure of the 20th century theories in real world organizations argue:

Early management theorists somehow managed to believe they had discovered the ‘one best way,’ the principle of organizations. However, many if not all, of these theorists’ machine principles form the basis of organizational problems. Understanding organizations from a technical point of view underscores the lack of attention to human components. It also creates organizations that adapt to changing environments slowly, are often mindless and unquestioning, and place organizational and other goals at a premium at the expense of human concerns. In many instances, the humans in machine organizations become complacent, unmotivated, and lost their commitment (p. 101).

Basically, the leader confronting a multicultural group has to make a choice of model with respect to cross-cultural aspirations. Much of the work in the field of organizational behaviour has hinged on power relationships, more specifically, power relationships expressed or crystallized in the social practices and representations that affirm the core values and interests of the dominant group in society (McLaren, 2007). Scientific management, classical and human relations theories have become important schemata in such endeavours. Any attempt to apply multicultural perspectives to already established maxims of the dominant culture entails an inbuilt criticism of the limitations imposed by empirical problems (Kincheloe and Steinberg, 2002). Therefore discussions about leadership have rarely involved reference to multicultural or
cross-cultural relations. In what follows I shall try to discuss more precisely the meaning and emphasis that I would like to give to multifocal leadership.

**The Multifocal Leadership Model**

In leadership studies, ironically, culture has not been explicitly at the centre of the research agenda, or explicitly recognized in literary circles. The *multifocal* leadership idea largely attempts to articulate the role of socio-cultural relations in explaining and reformulating leadership in accordance with a different, non-technocratic emphasis—which in Robert’s (2006) terms we see as micro social theory. My conception of leadership introduces a notion of leadership that is based on *praxis*, *micro social theory*, *symbolic interactionism*, *cross-cultural competence* and *systems analysis*. Multifocal leadership makes allowances for many variables and peculiarities relating to particular societies and that the analysis of leadership is therefore highly relativistic. In other words, multifocal leadership relates to the values and exigencies in the organization and on the values, dispositions and capabilities of the socio-cultural group in question, as experienced particularly by the leader and the followers (Roberts, 2006). Although the socio-cultural system is the focal point of analysis, I do not wish to impose teleology on the concept of multifocal leadership. Rather multifocal leaders view the system as one where everybody’s values and objectives are formulated in relation to other people in the organization and where the choice of leadership style is also based on meaning-making, interpretation, social interaction, and a widely diffused pool of knowledge that affords a high degree of selectivity in relation to varying definitions of the organizational culture. In this context, cross-cultural competence is an important component in the selection of criteria for leadership and the formulation of corresponding leadership goals for multicultural or interethnic societies.

Before defining *multifocal leadership* and discussing how I propose to put it to work, it might be useful to give a brief account of the manner in which the concept has come into fruition. In recent times, the term *multi* has come to be used with startling frequency. It is interesting to isolate some of the more important ways in which it has been employed. In everyday usage, it is almost identical with “more than one”, “many” or “several”, thus we often hear of *multicultural, multicoloured, multifarious, multilateral, multilingual, multinational, multimedia, multiracial, multipurpose, multiprocessor, multitasking, multiparty*, etc. In any case “multi” has remained as much a key prefix in the establishment of criteria for the estimation of the extent or size of something. The *Oxford Advanced Learners Dictionary* defines “multi-” as “more than one; many.” *Multifocal* is however, not an orthodox use of the prefix, *multi*. In any case, the parallel has been pointed out because it may make easier the understanding of *multifocal* as “many” or “several” focal points, a radical change in educating organizational leaders. The initial crystallization to view leadership with different lens arose in the work of Peterson and Deal (1994, 2002). Peterson and Deal (2002) refer to bifocal leaders as the most successful school principals who are “shaping culture in their managerial roles and smoothing functioning in their symbolic roles” (p. 107). To a considerable extent *multifocal leadership* therefore is based on *praxis* (Freire, 1990) which in Freire’s words means reflection and action upon the world in order to transform it” (p. 36); and micro social theory (Roberts, 2006) consisting of self-conscious awareness, and a willingness to adapt in terms of such awareness both cross-culturally as well as intellectually. There is a close relationship between bifocal leaders and multifocal leaders on two levels. First, they are both part of a belief system relating to aspirations of leadership which differ substantially from traditional styles of leadership. Secondly, the pattern of leadership style selection may well be governed directly by the cultural context.

**Conceptual Framework**

The multifocal leadership model is theoretically grounded in micro social theory (or *microsociology*), multiculturalism, and lifelong learning. Micro social theory focuses on relations between persons. Microsociologists believe in the importance of the part played by individuals participating in societal affairs, that actions do not vary randomly at the social level, and that there are social, cultural, economic and other relationships of harmonization, interdependence, and integrated foci of action (Roberts, 2006; Layder, 1994). As Layder (1994) writes, “Micro analysis or ‘microsociology’ concentrates on the more personal and immediate aspects of social interaction in daily life” (p. 1). For many sociological theorists, micro social theory “focuses on actual face to face encounters between people” (Layder, 1994, p. 1) and offers an “understanding of the ‘acting’ individual and the nature of social interaction” (Roberts, 2006, p. 4). Accepting micro social theory, multiculturalism and education and training (lifelong learning) as
concomitants, or even parts of the *multifocal leadership* model, then I would argue that the major deficiency in the Eurocentric models of leadership is the failure to measure themselves against the development needs of different cultural groups whether of class, gender or ethnic groups. As Pisapia et al. (2004) write: “The traditional heroic model of leadership seems no longer sufficient to create a major lasting change” (p. 147). All too frequently, leaders fail, as Pisapia et al. have effectively argued, because “They are unable to identify critical societal and institutional forces impacting their environments and thus do not connect their organizations to current major themes associated with success” (p. 147).

Thus my conceptualization of *multifocal leadership* runs as follows: Multifocal leadership is the process whereby leaders seek to successfully become cross-culturally competent by reducing their dependence on objectification, absolutism, reminiscent of the scientific outlook of Eurocentric models of leadership and moving toward new forms of relationships that are based on mutuality rather than the cult of the ‘powerful individual’ as the *de facto* locus of the organization. The goal of leadership is not fixed but a moving “target”; and the perception of it will depend on the values and exigencies of the leader and on the values, dispositions and the capabilities of the followers in question, as experienced particularly within the cultural frame of reference. Although the cultural group is the focal point of analysis, *multifocal leadership* views the organization as where everybody’s values and objectives are usually formulated in relation to somebody else’s and where the choice of the leadership style is also based on a widely diffused pool of knowledge of self (or self-conscious awareness), education and training, and cross-cultural adaptation; and where this pool of knowledge offers a high degree of selection in relation to varying definitions of leadership. In what follows, I shall try to discuss more precisely the meanings and emphasis that I should like to give to the core terms of *multifocal leadership* and the relationship between them. A simple hypothetical conception of multifocal leadership would emphasize the dimensions of developing multifocal attitudes to leadership. Such a model is diagrammatically sketched out in Figure 1.

![Diagram](image_url)

Figure 1: A model of factors that relate to, contribute to, and influence *multifocal leadership* activities

Figure 1 indicates three leading conceptions of multifocal leadership. First, there is praxis, micro social theory, and symbolic interactionism (Roberts, 2006). This conception depicts a relational property between...
self-conscious awareness, meaning making, self-analysis and reflexive subjectivity. That is, the multifocal leader analyses the meanings one gives to one’s leader self through one’s own life stories, dreams and aspirations; and one examines one’s beliefs and philosophy about leadership. This conception also has to do with the leader as visionary, symbolic, and operates on purpose and values. The second conception is cross-cultural competence. In this case, the leader depends on effective cross-cultural communication, that is, affirms certain values and communicates these values through action and consciousness. The third conception is that the multifocal leader is knowledgeable in traditional administrative theory; but more specifically such knowledge generates the need for multifocal leaders to concern themselves explicitly with making of choices among alternative ways of coping with new demands. In the present analysis, these three conceptions are largely the means section of a means-end chain, the end section of which is made up of the clusters of attributes that the multifocal leader seeks to make central to the leader’s behaviour. The interplay between the three conceptions constitutes the cognitive and non-cognitive outcomes that influence multifocal leadership related activities.

Symbolic Interactionism

Some of the most significant early inroads into understanding how humans make meaning through their interactions and situations can be located in the works of George Herbert Mead (1863-1931). In his analysis of social action, Mead presents a picture of how the self emerges in a social world, by describing the interdependence between the mind and the environment (Roberts, 2006; Morrione, 2004). In order to encompass the range of empirical characteristics of human interaction, especially those that apply to group life or the behaviour of individuals in group life, Mead views social interaction as a process whereby interacting organisms “are observing each other’s ongoing activity, with each using portions of the developing action of the other as pivots for the redirection of his or her own action” (Morrione, 2004, p. 18). Mead has effectively argued that social interaction can be seen largely as the pivot of group life and not “merely as a kind of subsidiary medium operating inside of group life” (Blumer, 2004, p. 32). Mead’s interpretation of social action as a formative agent in its own right is that at the symbolic level interaction, participants form their actions by taking account of the actions of the others. This formulation seriously invokes the idea that people behave according to responses they receive from others.

Building on Mead’s foundation, Blumer (1969) specifies the combinations of value orientations most conducive to interactions between people—those centred on meaning making, social interaction, and interpretation of events. Blumer employs the term symbolic interactionism to describe the complexities involved in people’s actions and interactions. According to Blumer, the key element of symbolic interactionism is that human action—that is the self, individual and collective action, interaction, “the social construction of meaning, social control, society, as well as social structure and change” (Morrione, 2004, p.5) are mediated and defined in terms of a social association. In this respect, Blumer contends that people negotiate the meanings of their social world through interacting with others. For Blumer, given that humans are social beings and only become social through contact with others, becoming social is dependent upon the ability to act towards others mindfully.

Blumer (1969) isolates three major common attributes of symbolic interactionism. First, an individual’s action towards a thing is predicated on the meanings that the individual extracts from the particular thing. Second, individuals derive meaning of things from the social interactions that they have with others. Third, individuals modify their meanings of things through processes of interpretation that they acquire by dealing with their interactions with things. Blumer concludes that the individual’s conception of oneself has its basis in seeing oneself as others see the individual. The three attributes in question are crucial in illustrating processes of leader socialization and development. They help in gaining insights into leader socialization and development by uncovering and understanding the meanings central to beginning leaders as they deal with ever changing situations.

Accordingly, translated into the education of organizational leaders, first, multifocal leaders need to understand the meanings central to themselves as actors in multicultural settings and give attention to meaning and meaning making. Second, given that meanings are derived through the defining activities of the interaction of people, leaders must themselves spell out the meanings of particular events as their own through their own stories and beliefs. Third, leaders need to use meanings through interpretation or what Pisapia et al. (2004) term reframing. Pisapia et al. contend that reframing “involves sorting and interpreting the meaning of new information, events, and experiences” (p. 153). Given that human socialization and development are profoundly idiosyncratic and no two persons, even if sharing similar contexts would make precisely the same meaning of those contexts, ultimately, the concepts and categories that are used by the
leader to organize and present understanding speaks to the leader’s life experiences and understanding. Therefore multifocal leaders need to attend to meanings forming situations and the origins of those meanings.

**Self-Awareness and Reflexive Subjectivity**

Dotlich et al. (2004), Harry (1992), Chan (1990), and Cross et al. (1989) have identified self-awareness as the most critical attribute to effective leadership in cross-cultural settings. Harry, for example, emphasizes the critical nature of self-awareness when working with individuals and families from different cultural and experiential backgrounds. According to Harry one fully understands and appreciates the diversity among people when one first understands or appreciates his/her own culture. Similarly, Cross et al. (1989) isolate three major attributes in cross-cultural skill development: 1) self-awareness; 2) knowledge of information specific to each culture; and, 3) skills that enable the individual to engage in successful interactions. Similarly, Hanson, Lynch and Wayman (1990) identify four main ways of developing cross-cultural proficiency: i) clarification of the interventionist’s own values and assumptions; ii) collection and analysis of ethnographic information relating to the residence of families; iii) determining the degree to which the family operates trans-culturally; and, iv) examining the family’s orientation to specific leadership issues. Dotlich et al. (2004) argue that the common element in the processes of developing cross-cultural competence is reflexiveness of the leader; often leaders do not give sufficient thought to factors that affect their behaviour or to the effects of their behaviour upon those with whom they work. As Dotlich et al. argue, “Leaders who do not succeed tend to be people who lack self-awareness” (p. 11). Also, Dotlich et al. found that effective leaders are those who possess self-awareness and are “aware of their strengths and weaknesses; they talk and think about their limitations and try to learn from them” (p. 11). Similarly, Lynch and Hanson (2002) place self-awareness at the head of the list of those factors affecting social interaction and perception by arguing, “Self awareness is the first step towards cross-cultural competence” (p. 51). In cultural terms, Gadamer’s (1986) concept of fusion of horizons postulates that the understanding of another culture necessarily begins with the understanding of one’s own culture.

I employ the term reflexive subjectivity to describe people’s actions based on their own personal opinions and feelings about a particular situation. Reflexive subjectivity is primarily a moral concept. The moral analogy is worth investigating as an introduction to multifocal leadership since it points up the elements of leadership with considerable precision. People are self-defining by ascribing “meaning to their actions based on their ability to monitor their conduct in relation to the conduct of others” (Smith, 1989, p. 132). In other words, it is the self-conscious alignment of personal goals to a perception of others. As Smith 1989 puts it: “That is, people can understand or make sense of what they do by meaningfully describing or making sense of what others do in reference to their conduct, and vice versa” (p. 132). In leadership terms and in this particular context, reflexive subjectivity simply means the follower will self-consciously adjust his/her actions in accordance with the perceptions of him/herself mirrored in the leader’s role. Thus the leader’s role is taken and reflected by the follower. Smith (1989) speaks of “the concept of reciprocal social awareness or the sense that one’s actions can be interpreted only on the basis of an awareness of the interpretations others give to one’s actions” (p. 130). The role-taking process is a compound of the leader’s action towards followers. The key element in reflexive subjectivity is self-reflection. Pisapia et al. (2004) have defined reflection as “a cognitive skill that involves careful consideration of any belief or practice that promotes understanding of situations and then applying newly gained knowledge to these situation (sic)” (p. 156). The degree to which followers align their goals to their leaders has ultimately to do with the nature of the followers’ experiences and how these experiences are interpreted based on the followers’ personal opinions or feelings rather than on particular facts or evidence. The most profound experiences, those affecting in some way, the ‘life chances’ and the capacity for the future development or future achievement of the follower will obviously impinge most strongly on the behavioural patterns of the follower.

**Cross-cultural Competence**

One of the most important features of multifocal leadership is the cross-cultural competence aspect. Barrera and Kramer (1997) define cross-cultural competence as the ability of leaders to respond in the best possible way to all individuals, understanding both the individuals and the restrictions of the socio-cultural contexts in which the individuals and their families as well as the leaders, themselves may be performing. Barrera and Kramer have argued that cross-cultural competence is not based on a cultural, ethnic or racial postulate in which one group is considered dominant establishing rules for subordinate groups. For Barrera and
Kramer cross-cultural competence does not refer to a specific set of skills but there are minimal objective conditions that must be met before cross-cultural proficiency can begin. Notably, there must be openness to other cultures. Behind this lies the requirement of a fairly high degree of self-knowledge in a cultural context—so that one can relate to individuals operating in different cultural contexts (Spitzberg, 1989). It is thus the malleability of individual goals in respect of other cultures is the baseline for cross-cultural skill development (Ruben, 1989). Cross et al. (1989) also describe cross-cultural competence in terms of attitudes, behaviors and policies that are compatible, converge, and result in effectiveness in cross-cultural situations. Similarly, Rorie et al. (1996) refer to cross-cultural expertise as “a set of behaviors, attitudes, and policies that enable a system, agency, and/or individual to function effectively with culturally diverse clients and communities” (p. 93). For the purpose of this paper, I adopt Lynch and Hanson’s (2002) definition of cross-cultural know-how as “the ability to think, feel, and act in ways that acknowledge, respect, and build upon ethnic, socio-cultural and linguistic diversity” (p. 49). Thus in accordance with this definition, all individuals and groups are diverse and implies that there is no one group that is normative and that socio-cultural factors as well as ethnicity, language and culture play a great role in people’s experiences.

**Theory and Systems Analysis**

It might be thought, in view of my criticisms of the orthodox theories of leadership that emerged in the 20th century, I might be seeking to abandon theory altogether. That is not the case, since I propose to argue that there is an important need for theories, a need that arises from some of the empirical processes which receive relatively little systematic attention, but which are nonetheless important in the analysis of some aspects of leadership in contemporary societies. In my formulation, I retain the basic and minimal notion of leadership, although with rather a different emphasis. While there may be enormous differences in the details of multifocal and traditional leadership models, they do have commonalities. To a considerable extent, multifocal leadership therefore consists of theories that do not impinge self-conscious awareness, and a willingness to adapt to such awareness both culturally as well as intellectually. Pisapia et al. (2004) have attempted to specify the combination of value orientations most conducive to effective leadership in the 21st century—those centred on cognitive processes and systems thinking. Twenty-first century leaders must be able to make decisions with respect to the value orientations and goals in the light of a wide range of societal groups and self-conscious alignment of their goals to a positive perception and evaluation of people of different cultures other than their own.

Therefore, the conception of multifocal leadership introduces the notion of theories of structures and operations of societal systems and their analyses as a starting point. This relates to a first-order respect to continuous lifelong learning, adapting and responding to both positive and negative circumstances as a mechanism self-adjusting to information. Embedded in this view is the idea of the leader receiving education and training that provides extensive information about current and relevant models of leadership and the ability for the leader to adapt existing theories to the situation in context. Thus, education and training are important components in the selection of criteria for organizational planning and profiling, program support and evaluation, dissemination, and gate keeping. Pisapia et al. (2004) argue that “leaders must develop a more strategic mindset by developing and using the core cognitive skills of reframing, reflecting and systems thinking to make sense of complexities facing the organization and applying them to non-linear change opportunities” (p. 148). Most important, such leaders must be “highly conscious of their feelings and behaviours as they move through life” (Dotlich et al., 2004, p. 11).

**Conclusion**

The order in which the analysis proceeded was, inevitably, arbitrary and therefore concealed some fundamental connections. These may now be clarified. I began this paper with the claim that multicultural societies are rejecting forms of leadership based on Eurocentric notions in which forms of leadership fails to measure itself against the development needs of multicultural and cross-cultural societies. Whereas twentieth century Eurocentric theories of leadership appear to preclude the analysis of culture, a new form of **multifocal leadership** calls for a shift towards a more relativistic view of society, emphasizing the impingement of classical theories of leadership. This paper is a call that represents a reaction against Eurocentric, positivistic or scientific methods of leadership in multicultural societies. The premise for this call is that Eurocentric modes of leadership in multicultural, cross-cultural and intercultural societies fail to come to grips with the cultural reality of the people in the organizations. The implication of meaningful and
relevant leadership roles in multicultural and intercultural societies are that a leader’s decision-making should be based on genuine attempts at developing mutual understanding rather than the leader playing the cult of the “powerful dynamic individual” (Jazzar and Algozzine, 2006, p. 169). Genuine and authentic leadership should be collaborative and decisions negotiated and implemented by the wishes of organizational members. In this outline of the development of a leadership model for cross-cultural settings, I have concentrated on the significance of self-conscious awareness, crystallized out of the concepts of micro social theory and symbolic interactionism. With a number of exceptions, the contention is that certainly in the 20th century, the analysis of leadership was largely governed by emphasis upon both individual power and influence and the primacy of economic considerations.

The key element in the multifocal leadership model is that leader-follower relations are mediated and defined in terms of a system of culturally structured and shared values, beliefs and symbols. Effective multifocal leadership thus offers a mode of analysis strongly oriented towards situational emphasis and not a judgment on the organization according with objective criteria, but a conclusion drawn from an examination of the values and goal aspirations of both leaders and followers. Rather than objective summated evaluation, the success of leadership can be determined by the success of the organization as a whole in implementing and consummating the values, goals and the aspirations of both the leader and followers. Symbolic interactionism is the best available for the propositional approach to multifocal leadership. Given the commitment to define the leadership process as intimately related to social interactions, it is obvious that leaders’ meaning making and interpretation of events are central to multifocal leadership. On the other hand arguments for the advantages of understanding what has been called the traditional leadership theories requires me to adopt a wider perspective of multifocal leadership than social action, meaning making and interpretation. The reasons for rejecting existing Eurocentric leadership models is not merely to suggest a new conceptualization of a ‘one-fits-all’ leadership model or the relativistic idea taken as “anything goes”. Even if existing leadership models were to remain in extensive use, I would still have called attention to some neglected themes by asking what it is that leaders are seeking to do on behalf of their organizations in the contemporary global world and with what perceptual ‘raw material’ do they embark upon the pursuits of their objectives? In looking for ways of obtaining an answer to this question, I have tried to stay within the mainstream of micro social theory. Given the importance of leadership as a social concept, the sociological preoccupation with problems of meaning, motivation and action can make genuine illuminating contributions to the study of leadership in terms suggested in this paper. The implications of the present analysis are not necessarily different from the most widely accepted of the works in leadership studies—I have merely sought to draw attention to other aspects of the leadership conundrum. Schematicization of this simple multifocal leadership model helps to point out the broad context of leadership training. It is obviously necessary to try to confirm the extent to which the model is supported by more than impressionist conventional evidence. Furthermore, it is likely that such broad and homogeneous conception of leadership in multicultural and cross-cultural settings is only of limited utility for the complexities facing leaders in cross-cultural settings. The interpretation offered here only provides skeletal outlines of leadership training for multicultural and cross-cultural settings, and merely predicates that leadership in cross-cultural settings constitutes a host of complexities and constraints on what will and will not be performed in cross-cultural settings; but also that the activity of leading in the latter setting may lead to modifications and alterations and innovations according to the form such activity takes. However, I hope that I have been able to widen perspectives on this topic and to draw out some unrecognized ramifications of the need for global alternative leadership models that would bridge multiple worlds in business.

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UK Export Controls: A case-study in compliance training and education

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Abstract: The United Kingdom (UK) Strategic Export Controls (SEC) are intended to support economic growth while maintaining control over the export of strategic aerospace and defence items. Online compliance training and assessment has been provided to industry staff on an initially semi-formal design and development basis at four certified levels from basic compliance knowledge to postgraduate level. A methodology is presented for the initial analysis and evaluation of current assessment items and delivery. Opportunities for improvement and extension of the design process are identified and recommendations made in preparation for scaling up from under 1,000 to over 17,000 industry staff. A key output is the identification of design cycle processes essential to the development of effective learning materials at levels 1 to 4. These will support an even transition from level 1 work-based compliance training through to post-graduate SEC education.

Introduction

The 2011 uprisings in North Africa and the Middle East provide a strong, powerful and topical demonstration of the importance of controlling strategic items (items relating to security, defence and foreign policy). Many government are already reviewing sanctioned exports of strategic items in light of these uprisings, to ensure they have not been used for internal repression and that policies are inline and accountable with the international community (Committees on Arms Export Controls, 2011).

Against a difficult economic background the government of the United Kingdom announced, in 2010, that it would create a supportive business environment to stimulate engagement in international trade. The expected result would enable the UK to ‘export itself out of recession’. This commitment benefited from the fact the UK currency (GBP) weakened by 27% between 2007 and early 2009. The weakened GBP was expected to lead to greater overseas markets for UK goods and allow exports to lead the way to UK economic recovery. Anticipating a sharp increase in the number of companies exporting their products, the government foresaw correlating growth in the export of strategic items.

In recognition of UK industry’s desire to demonstrate a commitment to compliance within SEC, the government endorsed a proposal from the Export Group for Aerospace and Defence (EGAD) for a structured training programme within the arena of SEC. The aim of the programme is to; i) minimise costly compliance errors and ii) provide employees with a recognised industry standard of knowledge within export control. The programme provides four levels of training from basic knowledge for compliance through work-based learning to postgraduate level education in SEC. Levels 1 and 2 are delivered as online training and e-assessment to over 17,000 industry personnel, via the http://www.strategicexportcontrols.org portal. EGAD partnered with Cranfield University in order to be able to design, develop and implement the StrategicExportControls.org project. Cranfield was selected because of its experience of working with the aerospace and defence industries and academic expertise in these areas and that of security.

The project has been well received by industry and is experiencing rapid growth. As the project was created from a concept, rapid growth was anticipated and the delivery platform was structured to allow scalability over time. Governance for the project was established via an editorial board consisting of representation from academia, industry and government. However, processes for the analysis and review of the e-assessment results, in order to inform the design and development of the course content, were not agreed from the outset.

Rapid organic growth of the project resulted in insufficient time to develop a formalised approach to the design and approval of question bank items. This has provided the motivation for our analysis which is the first attempt to evaluate the overall validity and reliability of SEC compliance testing.

It was always foreseen that at some stage the editorial board would take necessary steps to implement a process driven approach. Indeed the scalable design of the system was expected to be able to reflect process development and management of item design, access, different organisations, security and
an increased range of subjects. The project does not currently have dedicated learning designers which is possibly reflected in the inconsistencies encountered in the assessment strategy.

The paper is organised as follows. We first refer to the literature on objective testing, learning and assessment. In the section on Exploratory Data Analysis we present the initial results and results from the principal component analysis. The section concludes with results from the k-means clustering analysis. We then present and discuss the results before making recommendations and concluding remarks.

**Objective Assessment**

One of the original purposes of the SEC compliance training was to identify and fill training gaps where compliance errors occurred and provide a recognised acknowledgement that staff have achieved a certain standard of knowledge. The knowledge base could then be used as a means for assessing and improving performance with respect to SEC and also to provide the underpinning base for further work-based training and education opportunities. Currently, the compliance training is not mandatory but were it to become a regulatory requirement the level of assessment would move from low/medium stakes to high stakes with organisational compliance audits. (See Shrock & Coscarelli, 2007 for a detailed set of guidelines on the technical and legal aspects of developing compliance and other objective assessments.)

A number of frameworks exist which provide taxonomic descriptions of intellectual behaviour and cognition. (Crisp, 2007) summarises four of these to illustrate the role of such hierarchies in setting and assessing learning activities with a range of structured cognitive complexity; Structure of Observed Learning Outcomes (SOLO) (Biggs, 2003), Bloom, Modified Bloom (Anderson et al., 2000) and RECAP (Imrie, 1995). The latter refers to a two-tier adaptation of Bloom which links to four levels of learning; Recall, Comprehension, Application and Problem solving. At the lowest levels of the revised Bloom’s taxonomy learners are expected to retrieve relevant knowledge from long-term memory.

With its level 1 descriptors focusing on recognising and recalling (Anderson et al., 2000), the revised version of Bloom’s lends itself to developing standards-based curricula. The first of these descriptors requires that the learner can locate within their long-term memory knowledge that is ‘consistent with the presented material’ and the latter concerns retrieving relevant knowledge. These kinds of activity correlate with what Biggs & Tang (2007) call unistructural and multistructural approaches where the focus is on surface learning with little understanding of the underlying principles associated with the knowledge or task being assessed and can be quantitatively measured. For level 1 of the SEC compliance training this is all that is required for the learner to demonstrate i.e., that they have attained the requisite standard of declarative knowledge. Levels 2, 3 and 4 will require demonstration of higher levels of behaviour and cognition.

A measurable base level of knowledge can support the transition from compliance training to SEC education at a postgraduate level. The UK Quality Assurance Agency for Higher Education (QAA) guidelines for masters level qualifications stress the need for learners to demonstrate a ‘systematic understanding of knowledge, and a critical awareness of current problems and/or new insights, much of which is at, or informed by, the forefront of their academic discipline, field of study, or area of professional practice’ (QAA, 2001). It is intended that successful completion of SEC Level 4 will produce individuals with these qualities who can, in turn, feed their acquired expertise back into SEC policy and training and the maintenance of the knowledge base.

Question item banks which test foundational knowledge are usually developed on the basis of a principled approach to item design and analysis. Guidelines for developing objective testing are commonplace on the World Wide Web for example, the Computer Assisted Assessment Centre (CAA Centre, 2002) offers useful advice. However, a more thorough approach which also includes algorithms for statistical analysis is required if valid and reliable tests are to be administered on the scales and for the purposes described in this case-study (Shrock & Coscarelli, 2007; Ward, 1981). The next section presents an initial approach to our analysis of the data.

**Exploratory Data Analysis**

This case-study is based on a question bank of 115 items, 9740 question item responses from 970 users. Each assessment attempt consisted of 10 multiple choice questions drawn at random from the question bank. In this paper we focus on the quality of question items based on examinee performance on a question item and additional attributes of the question items. The aim of the analysis is to identify trends in the question bank and to inform the future design of the question items.
For the analysis presented here, we have collected the responses for each question. Each observation consists of exposure count for the question item, the percentage of correct responses, the ratio of question stem length to distractor length, and finally whether the question stem or the distractors contains a negative. Thus each question is characterised by four attributes.

Figure 1 presents the percentage correct and incorrect for each question in the bank sorted in descending order of percentage who answered correct. The question items are given a unique numerical identifier. Note that these are not contiguous integers.

![Figure 1](image)

**Figure 1.** Questions are sorted in decreasing order of percentage of examinees who answered correct.

It is clearly evident that the question items with IDs 69, 71, 78, 86, 87 (see uppermost graph in Figure 1) were answered correctly by all examinees. This in itself is an anomaly which indicates that these questions should be reviewed. Questions with IDs 55, 82, 96, 104 and 106 were answered incorrectly by more than 45% of the examinees. Table 1 shows the results of a closer examination of these questions.

**Table 1: Results of a closer examination of questions answered incorrectly by more than 45% of examinees.**

<table>
<thead>
<tr>
<th>Question IDs</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>55</td>
<td>Potentially confusing distractors: Never, Sometimes, Always.</td>
</tr>
<tr>
<td>82</td>
<td>Lengthy distractors; Appearance count 10.</td>
</tr>
<tr>
<td>96</td>
<td>Lengthy distractors; Common words could be transferred to the stem (See ref. for Guidelines[V1]).</td>
</tr>
<tr>
<td>104</td>
<td>Negation in the stem; Low appearance count.</td>
</tr>
<tr>
<td>106</td>
<td>Low appearance count; Worth reviewing the text as the question stem does not naturally run into the distractors.</td>
</tr>
</tbody>
</table>
Next we transform the data set to a new set of attributes using principal component analysis in order to explore any relationships. Figure 2 shows a matrix of plots where each transformed variable is plotted against the others, and a histogram shown for the variable in the diagonals.

![Figure 2. Matrix of plots from the principle component analysis.](image)

The plots reveal some definite structure in the data set. The plot of transformed variable 1 versus transformed variable 2 is exemplified in Figure 3 with labels shown for a selection of data points. The question attributes (appearance count, percent correct, all word count and presence of negation either in the stem or distractors) are used to investigate any discernable patterns in the question bank items. The results of the principal component analysis, where each of the new attributes are plotted one against the other are presented in Figure 2 together with histograms showing each variable against itself. Looking at the plot in v1,v3, that is the transformed variable 1 against 3 we see some clustering of question items. This clustering is shown in detail in Figure 3 where questions 104, 119 and 176, for example, stand out as they have low appearance count.

Next we perform a clustering analysis in order to investigate the structure in the data set. We use the k-means clustering technique. K-means clustering is an algorithm to partition a data set. Each observation in the data set is treated as a point in n-dimensional space. The algorithm tries to find a partition in such a way that the observations in a given cluster are as close to each other within each cluster, and as far from observations from the remaining clusters as possible. The algorithm finds the requested partitions iteratively by minimizing the sum distance from each observation to its own cluster centroid, over all clusters. There are many distance metrics used in the literature. In the present analysis, we have used cosine metric - one minus the cosine of the angle between observations treated as vectors in 4-dimensional space. Note that other partitioning algorithms such as Gaussian Mixtures or perhaps hierarchical clustering algorithms are equally applicable, but for the present analysis it is found that k-means is adequate for the purpose.

The output from the k-means algorithm is shown in Figure 4. The analysis is performed with 2, 3, 4, and 6 clusters. It is found that six clusters resulted in meaningful clusters that can be explained. The clusters are displayed using the silhouette distance. The silhouette value for each observation is a measure of how similar that point is to observations in its own cluster compared to observations in other clusters, and ranges from -1 to 1. The definition used in the Matlab Statistics Toolbox is reproduced here for easy reference. It is defined as:

\[
silhouette(i) = \frac{b(i) - a(i)}{\max(a(i), b(i))}
\]
\[ S(i) = \frac{\min(b(i,:),2) - a(i)}{\max(a(i),\min(b(i,:)))} \]

where \( a(i) \) is the average distance from the \( i \)th point to the other points in its cluster and \( b(i,k) \) is the average distance from the \( i \)th point to points in another cluster \( k \).

Figure 3. Plot of principal component 1 versus 3 shows some structure in the data set.

Figure 4. Cluster analysis.
The clusters shown in Figure 4 (bottom right) are further explored in this paper. The remaining plots are included for comparison. It is worth noting that in the bottom left plot (four clusters), the first cluster has a negative silhouette value for some observations suggesting potential misclassifications.

### Table 2: Summary statistics for the six clusters.

<table>
<thead>
<tr>
<th>Cluster No.</th>
<th>Count</th>
<th>Question IDs</th>
<th>Appearance</th>
<th>Percentage correct</th>
<th>Ratio of word count of question stem/distractor</th>
<th>Contains negation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cluster 1</td>
<td>30</td>
<td>1,3,5,8,9,10,14,18,19,20,21,22,25,26,27,28,29,30,39,42,44,47,49,52,56,57,59,60,63,72</td>
<td>Mean 166.03</td>
<td>90.92</td>
<td>0.65</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Std 34.75</td>
<td>5.50</td>
<td>0.63</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Max 216.00</td>
<td>97.17</td>
<td>2.67</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Min 98.00</td>
<td>78.87</td>
<td>0.13</td>
<td>0</td>
</tr>
<tr>
<td>Cluster 2</td>
<td>14</td>
<td>6,41,53,83,100,110,111,112,117,120,127,128,129,175</td>
<td>Mean 42.93</td>
<td>78.27</td>
<td>3.43</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Std 65.59</td>
<td>8.14</td>
<td>1.25</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Max 200</td>
<td>95.00</td>
<td>5.33</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Min 5</td>
<td>66.67</td>
<td>1.75</td>
<td>0</td>
</tr>
<tr>
<td>Cluster 3</td>
<td>12</td>
<td>4,15,16,17,23,24,40,45,50,51,54,55</td>
<td>Mean 181.00</td>
<td>67.03</td>
<td>1.18</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Std 21.68</td>
<td>9.93</td>
<td>0.74</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Max 212.00</td>
<td>82.84</td>
<td>2.33</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Min 5</td>
<td>66.67</td>
<td>1.75</td>
<td>0</td>
</tr>
<tr>
<td>Cluster 4</td>
<td>12</td>
<td>11,12,13,46,48,61,62,104,119,122,131,176</td>
<td>Mean 108.58</td>
<td>78.43</td>
<td>1.65</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Std 90.67</td>
<td>22.54</td>
<td>1.26</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Max 216</td>
<td>100.00</td>
<td>5.00</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Min 4.00</td>
<td>20.00</td>
<td>0.14</td>
<td>1</td>
</tr>
<tr>
<td>Cluster 5</td>
<td>19</td>
<td>66,67,69,70,71,74,75,77,78,79,80,86,87,90,97,99,116,123,133</td>
<td>Mean 10.26</td>
<td>90.81</td>
<td>0.33</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Std 2.60</td>
<td>6.38</td>
<td>0.22</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Max 16.00</td>
<td>100.00</td>
<td>0.90</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Min 7.00</td>
<td>80.00</td>
<td>0.07</td>
<td>0</td>
</tr>
<tr>
<td>Cluster 6</td>
<td>28</td>
<td>65,68,73,76,81,82,84,88,89,95,96,98,101,102,103,105,106,107,108,113,114,115,118,121,132,134,135,136</td>
<td>Mean 15.82</td>
<td>66.45</td>
<td>0.37</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Std 16.88</td>
<td>11.19</td>
<td>0.29</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Max 100.00</td>
<td>76.92</td>
<td>1.31</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Min 4.00</td>
<td>36.36</td>
<td>0.09</td>
<td>0</td>
</tr>
</tbody>
</table>

The full data tables can be accessed on request. Some remarks from the above analysis regarding the bottom right plot in Figure 4 are shown in Table 3.

### Table 3: Observations from analysis of the six cluster plot in Figure 4.

<table>
<thead>
<tr>
<th>Cluster No./Question ID</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cluster 4</td>
<td>Cluster 4 shares a common property that all the questions have negation somewhere in the question.</td>
</tr>
</tbody>
</table>
Cluster 5
Cluster 5 has grouped together most of the questions where percentage correct is 100.

Cluster 3: Question IDs 15,16,17
All related to basic definitions of terms used in export controls where there is some significant. All are Level 1 questions. There is potential mix-up between correct and incorrect distractors.

Cluster 4: Question ID 4
Question stem is ‘The main UK export control legislation can be found in:’ Confusion between distractor 1 and 2. Subtly in the naming of legislation. Although the act dates from 2002 there are a number of subsequent orders that amend the act. This may have caused confusion as the omission of the orders may result in users opting for the EU legislation. However, crucially the 2002 act is STILL the backbone of UK legislation.

Cluster 3: Question ID 15
Question stem is ‘In strategic export controls, trading can be defined as:’ Use of verb running on from stem. Longest distractor option is correct option (see para below table for explanation).

Cluster 3: Question ID 16
Question stem is ‘In strategic export controls, trading is also known as:’ Conflict between distractor 1 and 3. Longest distractor option is correct. The terms used give the answer away.

Cluster 3: Question ID 17
Question stem is ‘In strategic export controls, transfer is:’ Longest distractor option is correct.

Cluster 3: Question ID 23
Question ID 23 is related to chemicals requiring an export licence. The distractors are: Never, Sometimes and Always. The distractors violate the generic question item writing guidelines.

With reference to the observations in Table 3 and as an example of good question item design, there should be no clues as to which distractor is the correct response to a multiple choice question. In Cluster 3, questions 15, 16 and 17 had correct responses which were all longer than the distractors. Examinees are drawn to correct responses when they are markedly longer or more precise (Ward, 1981). By considering each cluster in turn and the questions there in, we can derive a considerable amount of information to assist in future development of item banks.

Concluding Remarks
In this paper, we have focused on a preliminary analysis of question item bank data. The exploratory data analysis followed by a clustering analysis has clearly identified question items with deficiencies. With reference to Figure 4 (top left) two clusters are clearly visible and a detailed analysis of these is worth pursuing. This is not attempted at this stage as the partitioning is far too coarse to obtain generic guidelines.

Analysis of the data indicated the existence of anomalies within the question bank items. Closer inspection of the questions themselves revealed several problems with item design and the lack of consistent application of good design practice as recommended in the literature (Shrock & Coscarelli, 2007; Ward, 1981). The principles of setting learning objectives and aligning well-written question items with them would improve the reliability and validity of the assessments. Given the predicted scaling up of Level 1 testing and the need for a question bank of valid and reliable items it is advisable that a systems approach is adopted. The ADDIE (Analyse, Design, Develop, Implement, Evaluate) process model could be extended to capture roles and activities required to manage current Level 1 design and ensure that whatever is done is constantly evaluated and the results of evaluation fed back into the design cycle.

This case-study most likely sits within the evaluation stage of an as yet undefined model for managing the future of SEC compliance training and ensuring content and assessment of learning at all levels is kept in alignment. The recommendations from this paper can be readily taken into account in the next stage of analysis to ensure that objectives are clearly described and assessment items and criteria match the expected behaviours. Bloom’s revised taxonomy (Anderson et al., 2000) could provide a good starting point but RECAP (Imrie, 1995) and SOLO (Biggs & Tang, 2007) should also be considered. The
latter contains excellent guidance for the constructive alignment of intended learning outcomes with materials and assessments but would oblige instructional designers to consider a less objective approach to testing.

Responsibility for question bank and item management should reside in one location with sign-off from the editorial board. All stakeholders would require briefing on how the system works and the relationships between content and assessment design and roles and what constitutes good practice. A technical specification such as IMS Global Learning Consortiums Question & Test Interoperability (QTI) could be applied to the question bank items to encourage standardisation of practice and also add value in terms of systems interoperability.

With the expected increased uptake of training and assessment across the SEC sector it would be advisable to develop a web application to provide a visual dashboard based upon the algorithms adopted in this case-study. The benefit would be a dynamic real-time analysis of question item performance based on assessment results. Real-time analysis is important for constant evaluation as assessment are taken around the clock, through the year. The dashboard can be used to identify issues at an early stage and inform the development life cycle.

Finally, we also suggest that a formal training needs analysis is carried out to identify the performance indicators of all roles working with SEC. Such an analysis could provide the basis for a competence framework for staff working full time in SEC and to identify performance gaps. Such a framework could also provide the learning objectives for further training and for developing assessments.

References
Delivering Business Knowledge in Accounting

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Abstract: The purpose of this research was to evaluate student perceptions of the value of employing typical business decision-making scenarios in the classroom, as a means to enhance learning opportunities. The objective is to further demonstrate that the value of these activities may be perceived differently by different groups of students. The perceptions of two different student groups were examined, evaluated and compared. The two student groups in question were relatively disparate, which was also reflected in their evaluation of the business simulations.

Introduction
This paper presents a comparison of case responses between two different program groups of students with examples, on the practical application of experiential learning in accounting courses. This is achieved through the medium of simulated practical cases to enable students to experience examples of scenarios they may encounter in the workplace. Examples of simulations employed by the author in the classroom are described as examples of the experiential approach.

Objective
The objective of this paper is to describe and demonstrate some of the research that was carried out in applying Experiential Learning principles.

Perspectives on practice
Several experiential activities were presented and assessed from the perspective of aiding in the learning process for students, providing different, sometimes more practical examples from practice in the profession of accounting. These exercises are an attempt to bring live examples from the professional work-place, into the classroom to provide a more concrete experience than what might be perceived by students as an abstract or theoretical demonstration from a text, as a point of reference and context.

Cases
Students worked with several example cases from the course textbook as a means of expanding their opportunities for putting theory into practice. These textbook cases were also used as benchmarks to compare to the practical business case simulations in experiential learning.

Simulations
The difference between the textbook cases and the classroom simulations however were significant in the fact that the text presented descriptions of actual previously existing situations that students analyzed from the perspective of confirming the issues of internal accounting controls (or lack thereof), before addressing the discussion points in the text. The experiential simulations however, were different to the extent that the students were required to use guidelines discussed earlier in the course, to exercise professional judgement – a new concept, and apply the principles in order to define:

i) An appropriate range of materiality on which to base an audit plan;
ii) Derived from this materiality, to design an appropriate level of statistical sampling in order to obtain the necessary audit evidence to provide the assurance expected;
iii) Based on the sample selected in ii) above, to evaluate the significance of the errors in relation to a) the specific area of audit, and b) the overall impact on the auditor’s conclusion and opinion on the fairness of the financial statements.

Thus, the students were required to apply new concepts into a predictive situation in order to determine a level of investigation to an appropriate level. By means of discussion, assessment and application of professional judgement in small groups, students developed approaches that they deemed would be appropriate in a professional working situation. They were not provided with stock answers, but a general discussion of their judgements and applications ensued with reference to the earlier guidelines. The students demonstrated remarkably practical approaches to these simulations.
Example simulations from the work environment (practice in the accounting profession) did in fact prove to be beneficial to the learning process, by providing opportunities for the students to work with concrete examples and develop an appreciation of the judgement and skills they (the students) will need to develop.

**Mode of Inquiry**

Once these simulations were completed, at a later point in the term, this experiential approach was then evaluated by the students themselves to assess the value of this approach in their appreciation of skill set requirements. Three simulations from practice in the profession were assembled and presented to two disparate groups of students. Both of the groups were in baccalaureate programs, but with a different focus and experience. Group one students were in the Bachelor of Commerce – Accounting program. Group two students were in the Bachelor of Applied Business Administration – Accounting program. On the face of it, the groups were not too dissimilar.

The same cases were presented to both groups separately, and at different times during the same year. The cases were presented to the groups at the same point of time in their respective terms. This enabled both groups of students to experience working with external data to simulate decision-making situations they will certainly encounter in their future working environments. Some time after the conclusion of these experiences, before the end of that same term, the students were asked for their perceptions of the value of these live case experiences.

**Data Sources**

The sources of the data were the feedback from the two different student groups, and their own individual perceptions of the value of the simulations they experienced. These data are in the form of responses to a brief survey questionnaire given to the two groups of students in separate degree programs and at different times (but at times during which they were taking the same course). The questionnaire addressed the issue of whether the students found the use of a) textbook cases, and b) example business simulations encountered in professional life, beneficial to their learning. The purpose of these simulations is to provide practical examples that enable students in the classroom to work with these business case simulations and provide a link between theory and professional practice.

**Results**

The simulations (see Appendix) of live case data from business situations for the students to experience was certainly demonstrated to be of value in giving the students a “live” experience to work with outside the workplace environment. Group 1 students in particular assessed the simulations as “more effective” to “highly effective” in benefit to the learning process. They felt that the simulations helped their understanding of theoretical concepts, professional judgement and the subject in general. They also identified that working in small groups was valuable in the learning process, and particularly in reinforcement of the materials. Students in Group 1 also indicated that they felt more actively involved in learning with the cases and simulations.

What the student evaluations also demonstrated however, was that the two groups had different perceptions of this value. There was quite a clear distinction in the evaluation of value by the two groups. When the evaluation ratings were converted to percentages and compared, there was a difference in rating of up to 29% (Table 1, “Learning styles”) between the two groups. Interestingly the Bachelor of Commerce students rated the experience of working in groups on these simulation activities as of higher value than did the Applied Business Degree students.

From an informal, limited follow up, it would appear that the commerce students (Group 1) had a higher appreciation of 1) working in groups to problem-solve and; 2) Valued the experience of working with practical data more than the Applied (Group 2) students.

Several Group 2 students commented that they were not comfortable working in groups for problem solving, even though they had studied for 3 years as a cohort.
Table 1: Comparison of the student assessments of values of accounting simulations on learning, between the two different groups

<table>
<thead>
<tr>
<th>Statement</th>
<th>Text Cases Grp1</th>
<th>Text Cases Grp2</th>
<th>Materiality Simulation Grp1</th>
<th>Materiality Simulation Grp2</th>
<th>Difference Cases</th>
<th>Difference Simulation</th>
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</thead>
<tbody>
<tr>
<td>Helped your understanding of theoretical concepts</td>
<td>81 91 (10)</td>
<td>94 74 20</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Assisted understanding of Professional Judgement (PJ)</td>
<td>81 87 (6)</td>
<td>100 78 22</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The activities helped you understand the subject</td>
<td>100 87 13</td>
<td>100 78 22</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Discussion in groups was valuable</td>
<td>81 61 20</td>
<td>75 65 10</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The exercises reinforced the text material</td>
<td>100 100 0</td>
<td>100 87 13</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>These activities fitted with your learning style</td>
<td>88 78 9</td>
<td>94 70 24</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>You felt more “actively” involved in learning</td>
<td>100 91 9</td>
<td>100 87 13</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The comparative tables of results are illustrated in Table 1. The individual Group 1 and Group 2 questionnaire survey scores illustrated in Tables 2 and 3.

Table 2: Collated results of a survey of student perceptions of the effectiveness of in-class business simulations. Group 1 Commerce degree students, converted to percentages for comparison purposes.

Questions re: experiential learning in Auditing course. Group 1

1 = low effect, 2 = reasonably effective, 3 = more effective, 4 = highly effective

<table>
<thead>
<tr>
<th>Statement</th>
<th>In-class Text Case Studies</th>
<th>In-class Group Materiality</th>
<th>In-class Sample Selection</th>
<th>In-class Sample Evaluation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Helped your understanding of theoretical concepts</td>
<td>% 3 10 7 4</td>
<td>% 1 5 3 1 8 7 1 3 12</td>
<td>% 63 19 94 50 44 94 19 75 94</td>
<td></td>
</tr>
<tr>
<td>Student responses</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Assisted understanding of Professional Judgement (PJ)</td>
<td>% 3 6 7 1 6 10 1 5 10</td>
<td>% 38 44 81 38 63 100 38 56 94 31 63 94</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Student responses</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The activities helped you understand the subject</td>
<td>% 3 6 10 1 6 13 3 13 1 4 7</td>
<td>% 38 63 100 19 81 100 19 81 100 25 44 69</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Discussion in groups was valuable</td>
<td>% 3 6 10 1 6 3 9 4 2 10 3 3 10</td>
<td>% 38 44 81 19 56 75 13 63 75 19 63 81</td>
<td></td>
<td></td>
</tr>
<tr>
<td>The exercises reinforced the text material</td>
<td>% 3 6 10 1 6 3 9 4 2 10 3 3 10</td>
<td>% 38 44 81 19 56 75 13 63 75 19 63 81</td>
<td></td>
<td></td>
</tr>
<tr>
<td>These activities fitted with your learning style</td>
<td>% 3 6 10 1 6 3 9 4 2 10 3 3 10</td>
<td>% 38 44 81 19 56 75 13 63 75 19 63 81</td>
<td></td>
<td></td>
</tr>
<tr>
<td>You felt more “actively” involved in learning</td>
<td>% 3 6 10 1 6 3 9 4 2 10 3 3 10</td>
<td>% 38 44 81 19 56 75 13 63 75 19 63 81</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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Conclusion
It was evident that both groups of students found working with the case scenarios presented, and being challenged to provide suggestions further than the text as to:

a) Why accounting problems had been encountered in each case,
b) What may have been lacking in terms of internal accounting controls that may have led to problems,
c) student-group identification of Red Flags, that might have alerted management and the auditor to accounting and reporting problems,
d) Providing recommendations to management, such as would be required of an auditor, to prevent such occurrences or failures in the future.

From the perspective of the additional “mini-simulations” employed, it was also readily apparent that both groups of students identified this mechanism as a valuable learning tool. When discussing typical professional accounting situations after these simulations had been encountered, the majority of students were in a position to be able to more fully and practically describe suitable methods of tactical approaches to an audit. No attempt was made at this time to quantify this improvement, other than by the self-assessment of the value of the methodologies. The fact that the two groups of students perceived the value of the simulations differently to such an extent as documented in the Comparison - (Table 1) was most interesting.

Implications, Innovation, evolution of practice
While no attempt was made to quantify any improvement in knowledge or perception as a result of the application of the simulations, this would be a necessary follow-up to this research. The plan is to follow up with a survey of Group 2 students to attempt to identify more specifically any reasons for the lower value of their simulation experiences. They may have had more practical experiences than the Group 1 students that tended to make these simulations less novel as an experience. Alternatively, Group 1 students may be more comfortable working in groups for problem solving, because that has been a predominant method in general business and liberal arts studies. Another potential alternative for these differences in perception, is that the Group 2 students may be a non-typical group of students (an “outlier” group), which would warrant further investigation.

Table 3
Collated results of a survey of student perceptions of the effectiveness of in-class business simulations. Group 2 Applied degree students, converted to percentages for comparison purposes.

<table>
<thead>
<tr>
<th>Question</th>
<th>In-class Group Case</th>
<th>In-class Group Materiality</th>
<th>In-class Selection</th>
<th>In-class Sample Evaluation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Helped your understanding of theoretical concepts</td>
<td>1 2 3 4 N/A</td>
<td>1 2 3 4 N/A</td>
<td>1 2 3 4 N/A</td>
<td>1 2 3 4 N/A</td>
</tr>
<tr>
<td>Student responses</td>
<td>%</td>
<td>%</td>
<td>%</td>
<td>%</td>
</tr>
<tr>
<td>Assisted understanding of Professional Judgement (PJ)</td>
<td>1 2 3 4 N/A</td>
<td>1 2 3 4 N/A</td>
<td>1 2 3 4 N/A</td>
<td>1 2 3 4 N/A</td>
</tr>
<tr>
<td>The activities helped you understand the subject</td>
<td>1 2 3 4 N/A</td>
<td>1 2 3 4 N/A</td>
<td>1 2 3 4 N/A</td>
<td>1 2 3 4 N/A</td>
</tr>
<tr>
<td>The exercises reinforced the text material</td>
<td>1 2 3 4 N/A</td>
<td>1 2 3 4 N/A</td>
<td>1 2 3 4 N/A</td>
<td>1 2 3 4 N/A</td>
</tr>
<tr>
<td>These activities fitted with your learning style</td>
<td>1 2 3 4 N/A</td>
<td>1 2 3 4 N/A</td>
<td>1 2 3 4 N/A</td>
<td>1 2 3 4 N/A</td>
</tr>
<tr>
<td>You felt more “actively” involved in learning</td>
<td>1 2 3 4 N/A</td>
<td>1 2 3 4 N/A</td>
<td>1 2 3 4 N/A</td>
<td>1 2 3 4 N/A</td>
</tr>
</tbody>
</table>

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The intent is also to follow with development of further “mini-simulations” that can be developed as an aid to more practical or experiential learning. All indications for this researcher are that such simulations add to the in-depth understanding for the student. The student has the opportunity to “try out” practical situations, as if they were faced with them in the work environment, and learn from such an approach as well as to experiment without cost consequences that would otherwise present themselves in a professional working environment. The need to develop these further is readily apparent, and the benefits several fold.

One of the major impediments to a more practical approach is the density of all accounting course curriculum, where any such developments need to be “small-scale” so that they can be readily adapted into a class period so that enhanced learning can be achieved, without major disruption of the course schedule and content. This is a major challenge in itself.

Appendix

Simulation 1 - Materiality
Accountants apply the principle of materiality by means of percentages applied to various elements of a client’s financial statements. These percentages have been established (largely empirically over many years by the large international accounting practice firms), and included in the Canadian Institute of Chartered Accountants (CICA) Handbook recommendations (above). These percentages are quoted in ranges, for example, 5% to 10% of a client’s net income, ½% to 2% of total expenditures from the income statement, or ½% to 1% of the value of total assets on the client balance sheet. These are only three of the possible elements that might be used (usually more than one at a time) in establishing the level of materiality to a client user (reader) of the financial statements. From the above, this means that a misstatement error rate of 5% to 10% of client Net Income is an “acceptable” range of error. If there is a misstatement in excess of 10% of Net Income, this is deemed to be a “material” misstatement. Similarly, a misstatement amounting to more than 2% of total expenditure is considered to be a “material” misstatement. Students were required to predict a level of materiality with which they would work, based on guidelines provided, some of which quoted above.

Simulation 2 - Sample selection
In this simulation, student groups are provided an opportunity to then use the materiality they calculated (“judged”) in the first exercise, and develop that into a level of materiality for a specific accounting area (such as accounts receivable [debtors], cash, inventory, fixed [capital] assets), or others, making use of the original materiality – this would then allow students to experience the procedures involved in practical design of statistical samples for the purpose of examining detailed substantive tests of transactions.

The students were presented with values for a total accounting population. They discuss critical elements involved in designing a sample, such as level of confidence or reliability, the number of sample items desired in the testing to follow, how to calculate this, and make a physical selection. The students are presented with values from an accounting population and asked to use the design of the sample they have already determined to select monetary amounts from the population for detailed investigation.

Simulation 3 – Sample evaluation
In this group simulation, the sample items selected in the previous case have been determined to contain errors. These errors need to be evaluated to determine the impact they may have on the total accounting population and financial statements. Error evaluation formulae have been discussed earlier in class. The objective here is not only to provide practice in carrying out an evaluation of errors, but also to assess if these errors are material enough to have an effect on the decision to accept this rate of error, or to find it unacceptable and therefore of a material enough nature to warrant a qualification of opinion on the fairness of the financial statements. Here again, students worked in groups in order to be able to discuss their considerations and judgements together, before presenting them to the rest of the group and the instructor.

References
CICA Canadian Institute of Chartered Accountants Handbook, various dates and sections


Knowledge availability, innovation logics and institutional rules
coevolution in bioindustry

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In the biotechnology industry, firm capabilities and firm performance are linked through knowledge
generation, accumulation and application (DeCarolis & Deeds, 1999). Because each innovation builds on
earlier, biotechnology development is sequential (Scotchmer, 2004). Therefore, accumulated knowledge in
the firm and flows of knowledge into the firm are central parameters affecting the innovation process.

Historically, several different innovation logics successively favored the emancipation of
biotechnology in industry. After an initial phase of academic development during the 1970s, the
deployment of biotechnology in the private sector during the 1980s in USA has gradually led to the control
and ownership of the intellectual property (IP) by companies. This control has been the base of the
widespread of closed innovation logics (Chesbrough, 2003). Subsequently, the authorization of patentability
on living organisms has strengthened the strategic nature of patents. This new incentive has encouraged
companies to build patents portfolios on basic knowledge to create or protect monopolies. This movement
has induced a decline of knowledge accessibility and has gradually slowed down the dynamics of
cumulative innovations. With the inefficiencies generated by this anticommons tragedy (Heller &
Eisenberg, 1998), firms cannot afford to rely entirely on their own research. Consequently, they have
developed new different strategies to buy or license processes or inventions (i.e. patents) from other
companies. In addition, internal inventions that are not used in a firm’s business are taken outside the
company. The implementation of these more open innovation logics (Chesbrough, 2003) has influenced the
evolution of institutional rules. Thus, it is the dynamic balance between the innovation logic chosen by
actors on the one hand and the institutional framework in place on the other hand that affect the evolution
of institutional rules themselves (i.e. IP systems). Interactions between individual, organizational and
institutional levels are then the engine of change of institutional rules in the biotechnology industry. The
neo-institutional theoretical framework taking into account these interactions (Friedland & Alford, 1991), it
has been mobilized here to clarify the mechanisms of recent emergence and dissemination of open
innovation logics in the biotechnology industry and to precise the importance of knowledge accessibility in
the evolution of innovation logics.

In order to do so, a longitudinal study has been implemented on the basis of historical secondary data.
As demonstrated by (Weick, 1979), the use of journal articles is appropriate for such study as they provide
a time-linear source of information. To have the broadest overview of the evolution of knowledge
accessibility and innovation logics, the following criteria were used to select one journal: (1) First, targeting
practitioners, such as engineers, managers and entrepreneurs. (2) Second, addressing technological and
managerial issues in an integrative way. Consequently, pure academic research journals were discarded as
they target researchers. Preference was given to magazines or academic journals covering the science and
business dimensions. (3) Third, being a reference international magazine or journal in the field. (4) Fourth,
covering a long enough period of time so as to enable a complete analysis of the emergence and
dissemination of open innovation.

Applying these criteria, the Nature Biotechnology journal was selected. It is an English monthly
academic journal derived from Nature, covering the science and business dimensions of biotechnology. Its
first issue was published in 1996 by the Nature Publishing Group (UK). However, issues are available
online since 1998 only. Its impact factor (1) was 29495 in 2009, which makes it a reference journal in its
field (by comparison, Nature had an impact factor of 31434 in 2008).

The study carried out on one out of three issues of Nature Biotechnology (one issue every three
months) covered a period of 13 years ranging from 1998 to 2010. Because the institutional construction of
open innovation logics within the biotechnology industry occurred during this period, this approach leads to
redundancy and data saturation (Miles & Huberman, 1994). An exhaustive study of all issues was not
necessary, making this selection representative enough, as the purpose of the analysis consists in studying
the evolution open innovation logics and knowledge accessibility across time.

In each selected issue, articles dealing with open innovation were identified through the use of
keywords. The list of keywords was determined on the basis of academic articles dealing with open
innovation and knowledge-based view. This list was tested and adapted in order to return the highest
number of representative articles and avoid overlapping keywords. Selected keywords were: (1) open
innovation, (2) business ecosystem, (3) licensing, (4) cooperation, (5) intellectual property, (6) patent pool, (7) valuation, (8) clearing houses.

Using the NVivo (2) software, each article was coded by date, logic of innovation, type of individual actor, type of organization, and institution allowing the analysis of dynamic interactions between individuals, organizations, and institutions.

Preliminary results show that knowledge accessibility and availability are fundamental because they affect the nature of the open innovation logic implemented by companies. Furthermore, the adoption of a specific type of open innovation logic is strongly related to the evolution of the characteristics of IP regimes of protection and is impacting on the business model. It appears that interactions between individuals, organizations and institutions identify constraints and opportunities influencing the adoption and diffusion of open innovation logics and thus on the evolution of institutional rules. These institutional changes, observed through the evolution of innovation logics, are co-constructed by the gradual transformation of the rules of intellectual property rights, business models and technology itself.

References

1) The impact factor (IF) is a measure reflecting the average number of citations to articles published in science and social science journals. It is frequently used as a proxy for the relative importance of a journal within its field, with journals with higher impact factors deemed to be more important than those with lower ones.
2) NVivo is a qualitative data analysis computer software package. It has been designed for qualitative researchers working with very rich text-based, where deep levels of analysis on small or large volumes of data are required.
Overcoming Disciplinary Constraints: Using Design Thinking to Create Transformative Experiences

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Gordon E. Dehler, College of Charleston, dehlerg@cofc.edu

Abstract: Design thinking as both a strategy and process for conducting multi- and interdisciplinary studio experiences is argued to create a powerful learning setting for future managers. This paper describes such an experience, its theoretical and practical underpinnings, and its associated student learning outcomes.

Introduction

Criticism of management education for its lack of relevance and ineffective pedagogy has increased over the past decade (e.g., Welsh & Dehler, 2007; Khurana, 2007). Given this trend, Dunne and Martin’s (2006) article concerning the value of using design thinking to conceptualize management education generated great interest. They argued that external constituents were increasingly demanding competency in design thinking; and possessing it would increase the relevance of MBA education to practicing managers.

A comparison of the Bauhaus and the modern business school offers some foundational lessons that inform our perspective and excite our imagination. The first lesson holds that knowledge which does not lead to action lacks legitimation; in other words, drawing distinctions between theoretical and practical knowledge is not sustainable. The second lesson concerns how we view our work: for the Bauhaus faculty their work was part of a project designed to change the world; for management educators, their work is intended to prepare students for the transformed organizations of the 21st century.

Interest in design thinking has spawned a variety of ad hoc attempts to revitalize both pedagogy and curriculum development. Because of their idiosyncratic nature, however, an integrated statement of what it means to employ design thinking, how it alters pedagogical approach, and why might it be argued to enhance student learning failed to emerge.

This paper sets out an integrated statement thereby strengthening the link between concept and practice within the context of management education. We seek to clarify and sharpen the arguments around design thinking while it is still innovative and before it becomes part of the orthodoxy of management education.

Design thinking experiences create intentional learners who can solve complex problems in creative ways. Huber and Hutchings (2004:iv), in their description of an integrative learner, talk about a student who is empowered by skill mastery, knowledgeable about connections across disciplines, responsible to and for society, and who is “intentional about the process of acquiring learning.” Such a description is reminiscent of Hawley (1990), who defines intentional learning as an instructional process whereby students, on their own initiative, activate prior knowledge, relate old knowledge to new in systematic and reflective ways, organize disparate pieces of information and reach conclusions but assess them before settling on them. We argue that using design thinking to create and deliver multi- and interdisciplinary experiences, where new product or service concepts are developed for an external client, offers students the opportunity to become intentional learners.

This work is based on 10-plus years of systematic experimentation and refinement of a pedagogical process, and a curricular structure at the University of Cincinnati. Following Bruner’s (1987) notion of a spiral curriculum, we offer learning experiences at three levels, entry, mid-career and capstone. Since 2000, colleagues from several colleges within the University have come together to create stand alone and clusters of multi- and interdisciplinary courses giving students the opportunity to use design-thinking in meaningful ways as they create a deliverable (concept, product or service) for an external client. Our goal is for students to leave their experience intrinsically motivated to tackle tough problems because they are convinced the problems are crucial and they are confident in their skillset and ready to engage.

This paper is broken into four sections. In the first, we describe what it means to employ design thinking in the creation and delivery of management education. Section two addresses the theoretical foundations underpinning our pedagogical process. In the third section we discuss the student outcomes that we believe distinguish our approach. Finally we discuss the prospects of such an approach to transform management education.
Design thinking and management education

Design thinking is a “hot” topic – leading serious scholars to consider its potential as fad or fashion (i.e., Abrahamson, 1991); its substantive value in management education will take time to resolve. Proponents argue that design thinking, by directing attention to issues of strategic advantage – how design can facilitate the development of new customers and new markets – influences the focus and direction of an organization (e.g., Martin, 2009). At a minimum, design thinking benefits organizations as a symbol of innovativeness, regardless of the direct economic benefit.

From a pedagogical perspective, design thinking represents a methodology that uniquely prepares students to engage as critical beings in processes of social change (e.g., Barnett, 1997). Design thinking may be defined as a human-centered innovation process that applies a designer’s sensibility and methods to problem solving, no matter what the problem is (Lockwood, 2010:xi). It is a methodology for innovation and enablement. The method emphasizes observation, collaboration, fast learning, visualization of ideas, rapid concept prototyping, and concurrent business analysis. It is fundamentally about the aesthetic, understanding visual forms as symbols of expression; appreciating balance, tension, opposition, rhythm, lines of continuation, paths of vision, etc. But it is the enablement aspect of the methodology that is of more interest to us. It is a tool to imagine desired future states, to think through design, as well as to bring products, services, and experiences to market (Cooper, Junginger & Lockwood, 2010). “Thinking through design” offers the potential to re-envision and re-invigorate management education in some powerful ways.

Following the tradition of the Bauhaus, teaching design thinking to students most typically proceeds using the ‘studio’ approach. This in an approach to learning where power is de-centered, the approach is reinforced by both physical space and learning process. In a studio classroom, all space (e.g., walls, floors, tables, ceiling, stools, waste bins and windows) is usable. All participants (people as well as disciplines) are equal. As truly collaborative academic work, students discuss all parts of their work, adding and changing things in conjunction with one another as they come to understand more about the topic. At the end, the final product is truly a group product, in which it is difficult or impossible to identify group contributions. (Ingram & Hathorn, 2004). For those unfamiliar with what goes on in a design studio, a brief description is in order. (A complete description of an interdisciplinary studio can be found in Welsh, Dehler and Murray, 2008).

In a multi-disciplinary studio, participants come from a variety of disciplines. The number and specification of disciplines involved is a function of the client’s task. Students are challenged to design their own methodology for approaching the design task presented by the external client. After discussing various approaches, students determine a method to take apart the problem by dissecting it into manageable parts, establishing a taxonomy or hierarchy of topics (a possibilities matrix). Students then began to address each of these topics through brainstorming in groups and individual sketched proposals. All sketches are posted in the topic areas for all to see and to build upon. It is important to note that all students, regardless of discipline, are expected to sketch; similarly, all students are expected to engage in narrative development.

Learning within the studio is collaborative, socially constructed, and proceeds through the development of narratives. Narratives (Bruner, 1990) reflect the causal maps that students have developed in the course of their program. As practitioners encounter new or unexpected events, they construct stories in which the new or unexpected make sense. Exchanging stories allows the participants to uncover the implicit disciplinary assumptions or interpretive structures with relevance to the situation. This interchange produces the friction of divergent or competing ideas necessary to spark experimentation and improvisation. At least initially, these new experiences create causal ambiguity and in turn, encourage the engagement of all studio participants as a means of constructing or elaborating narratives that reduce this ambiguity. From this process, new stories emerge that belong to the studio and are modified by subsequent exposure to the new or unexpected.

Reflective observation (especially during ideation sessions) makes disciplinary assumptions transparent. These assumptions include language, unquestioned and accepted ‘common sense’ propositions, and institutionalized beliefs and values. Settling upon the user – developing personas – creating the story behind the concept that is expected to engage the user – each of these activities carries within it the potential for disciplinary clash and conflict.

In interim critiques, each student presents several ideas for specific design solutions pertaining to the topic areas. These ideas are discussed, with all participants making suggestions. Halfway through the course, students are required to land upon a design solution for a specific problem faced by client/user. Further research refines their goals and parameters for their final design proposals. For the final client
presentation mock-ups and study models, graphic presentations, final Alias renderings or finished models are created.

Multidisciplinary studio experiences require students to collaborate effectively. Collaboration, much more than coordination or cooperation, asks participants to mutually define their goals and negotiate their processes (Gunawardena, Weber and Agosto, 2010). For this reason, in successful studios, students acquire a more advanced skillset including the abilities to resolve problems of language, negotiate identity, use critique effectively, and create implementable concepts, products and/or services for an external client. At the same time, however, such collaboration, characterized by informal relationships, unspecified responsibilities and uncertain commitment, is stressful for students (Mattessich, Murray-Close and Monsey, 2001).

By problematizing sources of ambiguity, however, students come to see how decisions are structurally staged, situationally contingent, and how they encourage or discourage self-organization. Dialogue over the range of potential participation draws attention to the legitimacy of involvement and justifications for action. Critical questioning thus shapes understanding of the stakes surrounding an action as well as the action space.

Design thinking thus problematizes the still dominant “disciplinary” approach to education. The studio experience challenges students to question assumptions, analyze power relationships, critically reflect upon the series of embedded networks of relationships with other students and disciplines as well as consider alternatives for the utilization and/or transformation of that network. This approach is consistent with basic tenets of critical pedagogy (e.g., Reynolds, 1998; Dehler, Welsh and Lewis, 2001).

This description, while generic, still illustrates the activities that unfold in a studio with sufficient detail for us to discuss how exposure to the discipline of design thinking facilitates students learning to think differently as a consequence.

**Design thinking as pedagogy creates intentional learners**

Dehler (1996:222) identified a set of criteria for developing intentional learning experiences: they should (1) be thinking and meaning-centered, (2) reorient the core instructional emphasis from content knowledge to the development of problem finding and solving skills, and (3) match learning objectives to the appropriate pedagogy.

Technological advances, a complex, constrained world, cultural tensions, and blurred national boundaries—all demand a pluralistic approach in the design and delivery of management education. Increasing interdependence creates social, political and economic situations that cannot be resolved in isolation. The resulting “grand challenges,” (Omenn, 2006), are ill-structured problems requiring innovative and collaborative approaches to combine the efforts of multiple domains providing complementary expertise. We argue that using multi- or interdisciplinary experiences with real consequences (beyond grades) best prepares future managers for this challenge. Traditional management education, bound up by orthodoxy in both content and process, fails to equip participants for the changing nature of managerial work (French & Grey, 1996).

In complex environments, problems are not simply ‘given’ once and accepted uncritically. We argue that problem reformulation is one byproduct of the social interaction of the studio process. Just as problems don’t speak for themselves, neither do the social and political settings in which they arise. Since facts do not speak of their own accord, individuals must select, organize, and interpret the relevant and significant information to be used. This is one aspect where the fundamental training in visualization and composition brought by designers helps all students to bring organization to problem finding and to find comfort as they work through a wide variety of possibilities. Through their interactions, members of a studio shape attention to alternative disciplinary positions by raising or spreading questions of justification. (Why do you think that? Why do you think that is the right thing to do, etc.) In this way, they draw attention to what actions are necessary.

Multi- and interdisciplinary courses are hardly new. Neither is the studio approach. But putting them together is a more recent phenomenon, largely due to the ‘grand challenges’ noted above. What makes multidisciplinary studios difficult to teach is precisely what makes them so beneficial to students—it brings disciplinary differences into stark relief, it requires collaboration, and a yielding of instructor control. It carries significant risks—that student performance will be below par expectations of a discipline-based course (i.e., insufficient depth), that external clients will not be satisfied, that involvement in multi-or interdisciplinary activities slows down professional advancement.
In the beginning of a studio the culture tends to be multidisciplinary - reflecting the additive influence of each discipline. Students engage in different ways and at different levels of intensity as the task unfolds and their expertise is required. Interdisciplinarity emerges during practice, rather than being assigned or created specifically. Members of each discipline are gradually socialized to the values and expertise of others, ultimately learning to function as a community. Over time, students take on the knowledge embedded in the community. The home discipline reproduces itself through the acculturation of newcomers yet is transformed as well. This enables students to socially construct their own identity as a specialist practitioner as well as that of generalist studio member and learn how to transition between these two roles.

If there is no integration – embodied by a borrowing of theories, tools, models, and methods (McNicol, 2003), then the work is multidisciplinary. In contrast, interdisciplinarity is integrative. This is the goal of each studio. When interdisciplinarity is reached, students gain a complete educational experience and at the same time develop mental model of collaboration being a behavior that is practiced at all levels, not just something that is forced down on them from on high. Interdisciplinary identification enables students to enhance their specialist skills in practice and develop significant skills as intentional learners. The combination of in-depth skill as a practitioner and the ability to continuously learn and unlearn in a social context is crucial to the student’s professional development.

**Design thinking and student learning outcomes**

Student outcomes illustrate why we believe our approach is distinctive and most effective. Through the interdisciplinary design thinking experience, our students: (1) increase their self-efficacy and become “multiliterate”; (2) gain collaborative skills and experience in negotiating identity and navigating across different discourse communities; (3) learn to utilize conflict and participate in a culture of critique; and (4) go beyond mere understanding of innovation to actively create new concepts, products or services.

**Multi-literacy:** Borrowed from language instruction, multi-literacy results when having engaged with another language, students better understand not only their native language but are able to participate in the creation of a common language. Fulford (2010) traces this new capability to a process including learning from differences, actively engaging in meaning creation, and developing a relation with language that is transformative. We argue that becoming multiliterate is crucial to the process of effective collaboration in multidisciplinary settings. Problems of language are resolved when students can convey understanding of alternative perspectives by representing them in several ways and draw on a number of disciplinary systems, schemas, and frames, i.e., are multiliterate.

In multidisciplinary studio experiences students emerge with a new skill as translators learned through negotiating disciplinary boundaries, appropriating new ideas and methods, and assimilating or incorporating these ideas and methods into the ‘home’ discipline. Students develop an understanding of who has what skills, the answers they need, and how best to communicate with practitioners of those various disciplines. It takes some knowledge of other disciplines/functions to ask the right questions—those that allow expertise to flow into the decision process. Contact at the margins or overlap of disciplines, by exposing knowledge differences, gets knowledge flowing allowing students to ‘try on’ new and different schemas. The appropriation and incorporation processes are inherently political. Analogies between disciplinary power and functional power thus become easy to draw. Multidisciplinary learning promotes disciplinary clarity, effective cross-disciplinary communication, and the utilization of a variety of knowledge bases to either solve problems or advance knowledge. Managers with these learning experiences can exercise judgment, demonstrate intellectual continuity and flexibility, engage others with mutuality, and negotiate meaning within a political system.

**Negotiating identity:** Education is inextricably linked to the formation of identity, typically a disciplinary identity (e.g., engineer, marketer or biologist). How students learn to define their role identity governs their interpretation and behavior in work settings. Multidisciplinary experiences allow students to gain an appreciation for the dominant logic of their discipline, its language, values and conventions. Participating students must actively engage, accept responsibility for deciding how to behave, recognize and yield to the power of disciplinary perspectives. Through this experience they come to deeply understand the power of disciplines to divide and create difficulties. This understanding underlies the joint arguments students create that bridge disciplinary boundaries and establish new forms of logic.
**Engaging in critique:** As noted above, being multiliterate means appreciating differences in language – as one translates, one essentially turns the language back upon itself; the process of negotiating identity similarly entails reflexivity, turning one identity upon another. In each process, students are engaging in critical reflection on a collective, rather than individual basis. As positions are critiqued, some meanings and values become dominant; others become marginalized or negated. Critique serves several purposes, among them, learning, socialization, and resilience.

**Creating tangible and implementable outcomes:** Our multidisciplinary experiences revolve around creating a deliverable for an external (usually corporate) client. Students must act in order to satisfy this requirement. For many, this opportunity is their first chance to translate their capability into an outcome valued externally. It is this sense of mastery that is key to their future success.

Studio activities, whether ideation, creation or critique, force students to stop for a few minutes and associate their preparation with their performance, and to think about what they know and what they don’t, what they did and what they did not do and why they made the choices they made. The process encourages them to figure out what they don't know and to prepare in more effective ways (and to a greater extent). They come to appreciate that situations will always vary, and that no solution can ever be precisely the same. When their attention is caught, focused and practiced, the members of the studio gain a significant meta-learning capacity, coming face-to-face with how they are learning and developing the ability to make plans, to monitor progress and to make adjustments. This metacognition is crucial to building self-efficacy.

**Enhancing management education**

In sum, multidisciplinary experiences employing design thinking represent best practice in management education. We believe that over time, such experiences will yield new discoveries, as well as new disciplinary trends, transforming our understanding. The educational purpose of multidisciplinary studio courses is to engage students in understanding their disciplinary experiences as narrative life compositions. By learning to narratively reflect on their experiences they develop a deeper understanding of their professional identity. During a multidisciplinary studio, the multiple meanings of their reflections are negotiated, and turned over and over as new possibilities for understanding become apparent. The goal is not to come to a shared meaning, but to allow each student to come to his or her own meanings and thus to develop his or her own professional identity. At the same time, students develop a “sensibility” about the other disciplines involved in the studio. So while a marketing student doesn’t become an engineer, s/he does develop empathy around the goals, values, and processes that guide the engineer’s attitudes and actions.

The unstructured nature of the studio space encourages the telling and retelling of the stories of who we are, and is vitally important in the development of identity. This pedagogical approach creates spaces for students of each discipline to continue to develop their own stories to live by, in that it allows them individually to narratively reflect on their own interwoven personal, professional and cultural stories as they are shaped by, and enacted within, their professional contexts. Other valuable outcomes include networking with professionals, professional socialization, and the enculturation of students with diverse and contested values and ethical standards of the discipline.

Additionally, collaboration can increase students' learning by bringing their individual strengths together into a stronger combined force, as well as preparing them to work in an increasingly collaborative work world. Exposing students to different research paradigms early can help engender open-mindedness and respect for others' intellectual backgrounds.

Finally, a word about assessment is in order. As indicated above, when a studio is successful using an interdisciplinary framework to satisfy a client, it is often difficult (if not impossible) to judge individual work contribution. Mansilla and Gardner (2003, p. 5) propose the following three criteria for the evaluation of interdisciplinary work: 1. Is the work consistent with the disciplinary backgrounds of the participants? 2. Is the work a coherent whole that reflects the disciplinary perspectives of the participants? 3. Does it advance the understanding of one or more fields? Asking students to reflect on these criteria as well as their metacognitive advances reinforces the value of the experience and also allows students to not only isolate their own true contributions but to appreciate the contributions of their colleagues.
References

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Making claims to knowledge: A learning-centered approach to enhancing student understanding

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Abstract The imperative for enhanced teaching-and-learning has now advanced past the learning paradigm to the realm of integrative learning. In response, we contend that teaching must be more scholarly – advance beyond mere application of technique – and that student learning must be more ‘intentional.’ This paper addresses the development of deep learning by adapting an approach from action research: claims to knowledge. Students articulate their learning through five variations: claims of fact, value, policy, concept, and interpretation. Students engage with course material in a way that allows them to construct knowledge, make sense, and achieve personal understanding. Excerpts from student work in a pilot class on globalization and poverty, which drew from a business and economics foundation, are provided as examples. Initial conclusions suggest that using this claims to knowledge provides an alternative approach to student journaling and reflection papers.

Introduction

The challenge of improving student learning has never been as imperative as it is in today’s education climate. Since the groundbreaking work of Barr and Tagg (1995), education generally and management education and learning (MEL) more specifically have been engaged a search for pedagogical solutions to the challenge of enhanced learning outcomes. Learning-centered pedagogy (vs. teaching-centered) not only delineates a fundamental instructional orientation that shifts the primary focus from the teacher to the student – and from teaching to learning – but it also underpins the domain of scholarship of teaching and learning (SoTL). Since the elaboration of the learning paradigm, the next generation of learning emphasis centers on the notion of integrative learning (Huber & Hutchings, 2004). Building on the foundation of the learning paradigm, integrative learning seeks to foster the development of students as ‘integrative thinkers’ – preparing learners for the 21st Century world, able to connect knowledge across contexts and time.

Based on the AAC&U National Panel Report (2002, p. 21), the ‘new emphasis on educating students [is] to become intentional learners.’ Becoming ‘intentional’ according to the panel includes being increasingly self-directed in terms of developing self-awareness about the underlying reasons for study, the learning process, and how education is utilized. This includes applying learning across contexts: ‘Intentional learners are integrative thinkers who can see connections in seemingly disparate information and draw on a wide range of knowledge to make decisions’ (p. 21).

The central question and the objective of this article, then, is how business education might be designed in a way that facilitates students as integrative, intentional learners. This manuscript draws from the rich traditions of action research to introduce a pedagogical approach designed to facilitate deeper, more thoughtful student learning. Using a framework based on the notion of claims to knowledge, students articulate their learning by making claims to knowledge in five areas: fact, value, policy, concept, and interpretation (Hart, 1998). In a pilot effort, students in an undergraduate Honors course provided the basis for collecting qualitative data using this claims framework.

The understandings derived from this pilot project contribute to the base of knowledge in management education by providing insight into developing students’ capacities for integrative learning. The following discussion addresses the notion of learning itself, the conduct of the course and its assignments, and student outcomes.

Scholarly Teaching as the New Standard

McKinney (2007) distinguishes between good teaching, scholarly teaching, and the scholarship of teaching and learning. Dehler, Beatty and Leigh (2010) argued that ‘good teaching,’ i.e., teaching-as-technique, is no longer an adequate standard in today’s demanding learning environment. Rather, the new standard in MEL must be scholarly teaching. This suggests that merely implementing techniques, e.g., problem-based learning (PBL) or team projects, in-and-of-themselves do not necessarily foster the outcomes desired in today’s educational climate.
At its base, scholarly teaching means being conversant with the foundations of education theory, much as we expect researchers to have a working knowledge of research methodology. To teach in a ‘scholarly’ manner, then, means creating explicit, intentional connections between pedagogical practice and desired learning outcomes. PBL, then, isn’t merely a one-size-fits-all technique that is simply applied to the classroom, but must be applied within a specific context that matches pedagogy with learning objectives. The same could be said of other pedagogical approaches, including action research (e.g., Dehler, 2006) and experiential learning (e.g., Welsh & Dehler, 2007).

Scholarly teaching proposes that management educators adopt pedagogies that are explicitly learning centered. Much has been written in the last decade elaborating this general approach (e.g., Weimer, 2002). Today, this represents the platform for ‘effective’ teaching-and-learning (which is not to imply that it is necessarily widespread or dominant practice within MEL). The next meaningful advance of student-centered instruction in the post-2000 decade was the notion of integrative learning elaborated by Huber and Hutchings (2004), which arguably now outlines the standard for scholarly teaching. They contend: ‘What is needed in teaching for integration, then, is similar to what is needed in learning: an intentional approach. For faculty, this means systematic reflection on and inquiry into the specific challenges and dilemmas faculty face in the classroom; it means bringing the habits, skills, and values of scholarship to their work as teachers’ (p. 9, emphasis added).

Integrative Learning as Intentional Learning
Consistent with the aims of the learning paradigm, the primary learning derived by students is found within the conduct of doing (know-how over know-what). Students engage in sense making, striving to attain understanding as they investigate course material and search for a way to articulate ‘what they’ve learned’; that is, what they ‘know’ now that they did not know previously. Thus, knowledge is created by students idiosyncratically in a manner that allows to them to construct meaning relevant to their own understandings.

For learners, integrative learning requires engagement beyond the traditional teaching-centered, passive, surface learning endeavors aimed primarily at transferring propositional knowledge from teacher to student – Freire’s (1990) notion of the ‘banking’ approach. Bain (2004) contends that the ‘best’ college teachers believe everyone ‘constructs knowledge’ and that students understand new knowledge in relation to existing constructions. Instead, then, learning-centered pedagogies oriented toward deep learning (Ramsden, 1992) promote student progression beyond mere ‘knowledge telling’ (repeating information) to ‘knowledge transformation,’ whereby students engage with material in a more thoughtful way that reflects ‘intentional learning’ (Dehler, 1996).

Intentional learning fosters development of students’ self-directed learning skills, promoting thinking and knowledge creation beyond meeting the minimal requirements of an assignment – students take ownership of their work by reconstituting information in order to make sense within context and thereby achieve real understanding (Dehler, 1996). Management educators, then, need to employ pedagogies that allow students to connect knowledge and ideas in a way that promotes ‘complicated understanding’ (Dehler, 2009; Dehler & Welsh, 1993; Dehler, Welsh & Lewis, 2001). Rather than (over)simplifying material, student competencies are enhanced, raised to a higher level to comprehend more complex ideas.

Integrative Learning and Claims to Knowledge
Sotto (1994), in his powerful treatise on teaching and learning, argues that knowledge transfer, i.e., the absorption of propositional knowledge, does not truly constitute learning. Memorization is not learning. Rather, learning results from creating one’s own meanings and reorganizing one’s own theories in response to encounters with new ideas – ‘students ought to discover things directly rather than just reading or hearing about them’ (Kohn, 1999, p.143, emphasis added). Therefore, under the umbrella of learning-centered instruction and within the realm of integrative learning, knowledge is not a ‘thing’ to be transferred from teacher to students, but rather is constructed by learners themselves. Thus knowledge construction is the building block for meaning making (or sense making) and ultimately, understanding.

How, then, can we undertake scholarly teaching in a way for students to be ‘free to build their own cognitive universe’ (Barnett, 1997, p.4)? Two ways proposed by Huber and Hutchings (2004) include journaling and reflection. These pedagogies are common in the MEL domain and have been employed constructively to engage students in the knowledge creation process (for example, see Hedberg, 2009 on...
reflection; Pavlovich, Collins & Jones, 2009 on journaling). The thread within these two approaches is that students are encouraged to make sense of course material and articulate it, in a way that reflects their personal understanding.

Another way, proposed here and the central point of this paper, is by invoking a process commonly employed within the context of action research (e.g., McNiff, 2000): making claims to knowledge. Claims to knowledge are not mere opinion, but reflect understandings acquired through sense making, and meaning making. Claims need to be supported by established criteria and standards of judgment. That is, claims must be defensible and underpinned by validated evidence – analogous to the use of citations to contextualize and legitimize ideas presented in academic papers and presentations. Asking students to make claims to knowledge extends beyond journaling and reflection to the realm of action – as students make their claims they are taking responsibility for their choices and thus learning intentionally.

This poses the demonstration of learning in a different light. Assignments are designed to focus on what students are to learn rather than what the teacher does. The starting point is articulated by Bain (2004, pp. 152-153): ‘What kind of intellectual and personal development do I want my students to enjoy in this class, and what evidence might I collect about the nature and progress of that development?’ This question, then, is not about knowledge acquisition, but positions learning as a developmental process whereby the student actually engages in learning within the doing of the assignment. In the language of intentional learning, students are challenged to go beyond knowledge telling to engage in knowledge transformation – but in a manner that is self-directed and requires the student to take personal responsibility for learning. Well-crafted assessment, therefore, is created first for students as a learning opportunity and second as a tool for evaluation.

The underlying argument, then, is that this pedagogical approach of making claims to knowledge represents a ‘best practice’ by helping students develop their own intentional learning skills by constructing knowledge in a manner that invokes meaning making and ultimately understanding. The discussion now turns to a specific example of claims to knowledge in practice.

**The Learning Context: In the (New) Age of Walmart**

The use of the claims to knowledge concept was piloted in fall 2010 in an Honors class heavily populated with last-year students. This course was created for the Honors College as an elective, first offered in 2006 (and the subject of a previous manuscript on critical pedagogy, Dehler, 2009). Like the first offering, this course employed Walmart symbolically to highlight issues associated with globalization and social justice, however the main focus in this iteration was global poverty, especially in Africa. Of the 15 students enrolled, half were from business and economics while the other half crossed several disciplines, from languages and art history to political science and physics. This meant the course needed to appeal to students with multiple perspectives and interests, and could not be designed as a ‘business course,’ per se.

As it transpired, the three books chosen for the course were authored by economists. Book sequence turned out to be serendipitous, moving from broad economic analysis of the causes of poverty, to a specific industry (cotton) fighting for survival and characterized by social and economic hardship, to a systemic approach to helping people rise from poverty to attain a better quality of life. The three works represented different methodologies for understanding poverty and its implications. Paul Collier (2007), an Oxford economist and former researcher at the World Bank, invoked his own extensive research to provide an overview of the four main ‘traps’ that contribute to poverty at the country level of analysis. This provided a foundation for comprehending the underlying reasons for poverty existing in some countries and not others. The second book, by Georgetown economist Pietra Rivoli (2009), studies the cotton industry by employing a more ethnographic methodology. In essence, she uses the ubiquitous t-shirt as the mechanism to follow the trail of cotton, from Texas farmer to Chinese apparel manufacturer to Key West retailer. Interestingly, Rivoli adopts a critical perspective, noting that researching and telling the story of a t-shirt resulted in a richer narrative challenging common economic taken-for-granted assumptions (e.g., free markets) than the application of traditional economic inquiry. Finally, the third book addressed mechanisms by which people immersed in poverty could, through personal initiative (rather than international aid), engage in economic enterprise sufficient to raise themselves out of their dire situation. Former economics professor Muhammad Yunus (2007) recounts the formation of Grameen Bank as the vehicle for his Nobel Award winning approach to microfinance. The key again is not through foreign aid or social engineering, but the pursuit of social entrepreneurship – in large measure through the alliance with Group Danone, the French yogurt producer.
Of note, students found the books interesting and informative, yet didn’t simply accept the authors’ arguments at face value, having been introduced to the notion of thinking critically through a chapter from both Brookfield (2005) and Barnett (1997). So, for instance, without prompting they noted that Collier essentially omits any discussion of ‘people’ in his analysis of the causes of poverty – both in terms of the conditions of those subsisting on $1 a day or less, or leadership. Another key issue students identified was his failure to acknowledge the effect of colonization on poverty-stricken nations. Hans Rosling’s TEDIndia presentation (2009) dramatically reflects the detrimental impact of colonization on health, education, and economic development in India and China, and African countries in particular.

Students were asked to consider the arguments put forth in the readings in developing their claims to knowledge, which were submitted every two or three weeks. They were provided with a brief overview of McNiff’s (2000) views on claims, and a short excerpt from Hart’s (1998) discussion of knowledge, including his table included here. They then developed a series of five short papers that articulated their own claims to knowledge focused on Hart’s description of a claim of fact, value, policy, concept, and interpretation. An overview of the nature of the claims, including excerpts from student work, follows.

### Types of Claims

**Claims of Fact**

are statements that can be proven to be true or false. For example, statements such as London is the capital of England, are either true or false: they can be verified or refuted using evidence such as an authoritative reference. The difference between a claim based on facts and other forms of claim is that others require additional warrants and backing for their acceptance.

**Claims of Value**

cannot be proven true or false; they are judgements about the worth of something. For example, someone might make the statement that watching *Coronation Street* is a waste of time: this is a judgemental statement. … One might agree with the value claim or make a challenge through the counter-claim … that watching *Coronation Street* is a form of relaxation and is therefore good for people.

**Claims of Policy**

are normative statements about what ought to be done rather than what is done. For example, someone might claim that public libraries are an essential part of the culture of a civilized country and should therefore be protected from budget cuts. In this case we see a claim of policy combined with a claim of value.

**Claims of Concept**

are about definitions and the recognizability of the language used. For example, when comparing views on abortion or euthanasia, the way the claim was worded would be important. Some organizations … would claim abortion was murder of an unborn child. The claim employs particular definitions that are not only restrictive but emotive. The use of words is not therefore as given in dictionary definitions, but is a matter of interpretative use.

**Claims of Interpretation**

are about proposals on how some data or evidence are to be understood. Facts mean nothing without interpretation and interpretations … matter.

Table adapted from Hart (1998, p. 90)

### Deconstructing Claims to Knowledge

The succeeding comments represent student examples of the five forms of claims to knowledge within Hart’s framework. As these are intended as the nucleus for students’ understanding, they are also subject to interpretation by students. My explicit concern was to avoid giving detailed instructions, as I sought first to avoid unduly influencing students by imposing my own biases regarding how the claims might be operationalized. Second, I was particularly interested in how students created meaning within the context of the course focus on globalization and poverty.
Claims of Fact
In the context of the social sciences and the learning paradigm, Hart’s straightforward notion that facts can be ‘proven’ as true or false is more problematic. Thus, in this assignment, rather than merely repeat information presented in texts or articles, ‘facts’ represent information that students contend to be ‘true.’ In other words, if knowledge is constructed, then students need to create ‘facts’ that they argue to be ‘true.’ That which we believe to be true in the social sciences represents either taken-for-granted understandings, which can be contested, or arguments supported by evidence (e.g., authoritative sources that are cited). In essence, then, students’ claims of fact represent their argument as to what serves as an underlying ‘truth’ within a particular context. Student A offers an example:

Reading a book begins the learning process, but rarely ends it. … What followed began a reality searching process in which I attempted to coalesce Collier’s presentation of facts with other authors’ truths. —Sara

In this claim of fact, the student in thinking critically and essentially problematizes what is considered to be ‘truth.’

Claims of Value
Claims of value identify the worthiness of ideas, interpretations, statements or conclusions, which are made explicitly or implicitly by an author. Students identify these claims and may or may not agree with them. Student B comments on her claim:

Collier demonstrated that he valued economic growth as national success. … Rivoli demonstrated that she viewed a nation as successful when its citizens experience a high quality of life. … Though Collier and Rivoli disagreed over whether China is racing for the top or the bottom, neither of them can be proven wrong. —Morgan

Within the arguments being developed in these books, the student is identifying what the authors value, and thereby serve to frame the points they are making.

Claims of Policy
Normative statements reflect prevalent views about commonly accepted actions as applied to situations or problems. Claims of policy invoke what ‘should be’ done to address problems, rather than what is currently being done. The following statement of student C incorporates a student’s ability to think critically while conveying her claim of policy:

In the School of Business, we are taught that a free market economy is best. We are also taught that the goal of a company is to do things such as make profit and increase shareholder wealth. But in the current and ever evolving context of globalization, we must think critically about our policies ad question their validity. —Stephanie

This example conveys a claim that challenges extant approaches presented as ‘right’ within the context of a business discipline, and raises the prospect that other perspectives might be considered.

Claims of Concept
The terms chosen to elaborate an idea and the meaning assigned to those terms underlie a claim of concept. These are often taken-for-granted in the context of the topic, but can reflect the potential for contesting the author’s argument. Student C again challenges the traditional definition of business focusing on profit with an alternative oriented toward social change:

In his book, Muhammad Yunus addresses at least two concepts and evaluates their meaning in their traditional sense. He investigates what a traditional business is thought to be. Later, he investigates how we see growth in an economy. He then challenges our beliefs about these meanings. Yunus offers suggestions as to how we can change our concepts of business and growth in order to promote social change. —Stephanie

Typically, readers unquestioningly accept an author’s definition of the ideas central to the argument being developed. Adopting a critical stance, however, can call into question the proffered position. This highlights the importance of defining terms that form the basis of the underlying assumptions that support
an argument. It adds to the precision and transparency of an argument, and allows readers to engage the debate critically.

**Claims of Interpretation**

For this claim, which is the last and falls late in the semester, students are asked for a longer treatment. In part, this is because claims of interpretation inevitably include some or all of the previous claims. Facts, in-and-of-themselves, do not have true substance until we assign meaning to them, e.g., sense making. Students D and E look critically at the notion of globalization, essentially problematizing its meaning:

> If one conclusion had to be drawn from this class, it is that the analysis of globalization is most often approached using an academic or business style explication and analysis that too often sterilely detach themselves from the most vital variable in the vast, complex and potentially dangerous equation of global business: humanity. One can then fit the analogy of Wal-Mart as representing an often exploitative international corporation. –Chloe

Many people ask the question: Is globalization good? The simple answer is – it depends who you ask. Making sweeping generalizations about the effects of globalization is not helpful to constructing a dialogue about its consequences. … For this reason, Rivoli’s analysis is useful because she takes the example of one item, a t-shirt, and looks to explain the globalized behavior surrounding one industry, cotton. From this one route, Rivoli exposes a milieu of controversies in US agricultural protectionism, trade policies, capital flows, and foreign investment. She uncovers that from seed to shirt, the transnational road a basic t-shirt follows is structured by subsidies, quotas, tariffs, and taxes all determined in Washington, DC. –Annie

Authors present their ideas as carefully drawn conclusions, essentially asking readers to accept their argument based on their interpretation of data. Readers then either accept the author’s interpretation, or begin to evolve their own. Through claims of interpretation, students engage in reflection, and sometimes critical reflection, that raise the author’s views to scrutiny. In this way, students make their interpretations intentional rather than merely accepting – unquestioningly – a single perspective.

**Conclusions**

There are, no doubt, many questions that can be raised about the pedagogical strategy described above. One is whether, as argued at the outset, this approach represents ‘scholarly teaching’ as opposed to simply a technique? The contention is that making claims to knowledge has direct linkages to the learning paradigm and the notion of integrative learning, as well as grounding in the realm of action research. Another interesting question is whether this does, in fact, create an opportunity for students to truly demonstrate ‘learning.’ In order to develop a claim to knowledge, students must engage and consider ideas and arguments, rather than merely assimilate propositional knowledge. Finally, a key question has to do with students own interpretations of Hart’s claims. This is acknowledged as an issue. But it does not serve students for the professor to ‘tell’ them how to make sense of the five claims. Rather, a large part of the exercise involves students creating their own interpretations of each claim. Part of the learning from the exercise derives from the struggle. Sotto (1994, p. 60) emphasizes: ‘Real learning only comes about when we have had an appropriate experience. And the more we have to struggle during that experience, the more powerful is our learning likely to be.’

In conclusion, while there is still more to be gleaned from the students’ work, the initial response to the use of claims to knowledge is that it appears to offer a viable alternative to the use of student journals and reflection papers. Students need a pedagogical approach that allows them to exhibit their learning within their own context rather than the instructor’s. The claims framework offers that potential.

**References**


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Redesigning the classroom to enhance group learning and personal development: the role of structure and peer feedback

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Abstract: Groups of learners are increasingly acknowledged as the source of knowledge construction. However, in programmes with a large number of students, providing helpful guidance, extensive feedback, and support by teachers can be cumbersome. Recent research has looked into how peer review and peer assessment can help learners to reflect on their role within a team and their individual contributions to the group product. While peer assessment traditionally is used for grading or marking peers, there is a call for more formative (for learning) assessment and feedback which goes beyond marking and grading. Using principles of Design-based Research, this paper compares the extent to which a redesign with more individual reflection, peer feedbacks and evaluation on a frequent bi-weekly interval provided an enhanced learning experience for students.

Introduction

There has been a rapid growth in the use of small groups in teaching to engage students in active learning (Decuyper, Dochy, & Van den Bossche, 2010; Lindblom-Ylänne, Pihlajamäki, & Kotkas, 2003; Michaelsen, Knight, & Fink, 2002). Groups of learners are increasingly acknowledged as the source of knowledge construction. Collaborative learning environments enrich learning through interaction and therefore result in better performance on the ascribed tasks than do traditional learning environments. However, research in collaborative learning shows that the potential effectiveness of group learning is not always reached (e.g. Barron, 2003; Rienties, Van Wesel, & Gijselaers, 2008; Van den Bossche, Gijselaers, Segers, & Kirschner, 2006). By implementing a team-based structure teachers aim to convert their classroom in a learning environment where students learn from and together with their fellow team members (Hernandez Nanclares, Rienties, & Van den Bossche, 2011; Hurme, Palonen, & Järvelä, 2007; Katz, Lazer, Arrow, & Contractor, 2004; Lindblom-Ylänne, et al., 2003; Van den Bossche, et al., 2006). (Inter)action of learners, teacher or the course structure that conduce feelings of competence and sense of relatedness of learners can enhance affective, emotional and motivational engagement of learners by providing timely (positive) feedback and support. Research has highlighted that autonomy support (Chen, Jang, & Branch, 2010; Jang, Reeve, & Deci, 2010) and structure provided by the learning environment positively influence engagement of students within their teams. Jang et al. (2010, p. 598) suggest that learning environments should be designed in an autonomy supportive way, whereby structure provides “clear and detailed expectations and instructions, offering helpful guidance and scaffolding ... and providing feedback to enhance perceptions of competence and perceived personal control during a reflective post performance period”.

In particular in programmes with a large number of students, providing helpful guidance, extensive feedback, and support by teachers can be cumbersome. Recent research (Sluijsmans, Brand-Gruwel, Van Merriënboer, & Bastaens, 2003) has looked into how peer review and peer assessment can help learners to reflect on their role within a team and their individual contributions to the group product within small groups in both a formative and summative manner. While peer assessment traditionally is used for grading or marking peers, there is a call for more formative (for learning) assessment and feedback which goes beyond marking and grading. Therefore, a crucial question is how a learning environment with dynamic peer assessment can be designed in an autonomy supportive and structured way that stimulates learning in small groups.

Using principles of Design-based Research (DBR) (Collins, Joseph, & Bielaczyc, 2004; Reeves, Herrington, & Oliver, 2005), this paper compares the extent to which a redesign with more individual reflection, peer feedbacks and evaluation on a frequent bi-weekly interval provided an enhanced learning experience for students. In line with the guidelines for conducting DBR by Collins et al. (2004), we analyse the redesign of the redesigned environment in three phases. First, we critically reflect upon the
implementation of the initial design and rationale. Second, we will provide an overview of the overall rational and design of the redesigned module. Finally, we investigate to what extent the redesigned learning environment with more individual reflection and peer evaluation provided a more supportive learning environment for learners.

**Critical reflection of initial and follow-up designs of Hospitality events management**

The Hospitality Events Management aspect of the HOM module was designed in the summer of 2004 and was further developed during 2005/06 with support from L2L. The module aims to increase student knowledge and understanding of hospitality operations in particular food and beverage and project management. The module focuses on key management tools such as strategies, policies and a range of possible interventions are discussed via a series of lectures and tutorials. The course also provides an opportunity for practical application via the Lakeside Restaurant and other suitable venues throughout the university in the form of a one-off event. Students work in small groups to conceive, plan, market and implement a campus based hospitality event.

In 2006 L2L enhancements included the introduction of weekly progress logs for students to record, reflect and make sense of their emotional and behavioural experiences in the module; training and materials on reflection for students; review sessions between students and the Module Tutor to support students in making more sense of their whole module experience and to consolidate learning. The ‘teaching process’ takes the form of setting out the parameters of the event task and is then a ‘hands off’ supportive role during the main part of the module. Students have a substantial degree of autonomy and choice in this module, and also have the support of the module tutor to refine their project proposal/plan, think through and refine their plan; guidance in encounters with internal and external stakeholders; guidance or support in relation to interpersonal relationships; parameters of the project; university policy; ethics. It is at the end of the module where the Tutor takes a significant role in helping students to review, reflect on and consolidate their learning from the module. The module provides students with the opportunity to learn about working with others.

There is evidence from this L2L case that students engage in an extensive set of relations within this module - group work with their peers; and others who are influential in the success of their event – both internal and external to the university. The Module was revised to feature a more appropriate emphasis on project and operational management. The assessment strategy was also revised to replace an exam with a practical assessment and reflective report based on the lecture programme with improved links to the practical events management aspect of the module. This seems to have facilitated a more cohesive module and improved experience for students. The Module Tutors context specific knowledge experience and engagement in the student learning process is highly valued, as is illustrated in the two quotes below.

‘The beauty of the logs was [that] they helped focus everything because the students tend to write …as they feel it at the time, which is, why I prefer the hand written ones to the typed ones’

‘What I was hoping they would do… would be enjoy the journey and learn from the journey… I think for some of them the logs made the journey a bit more bearable’ ‘I suggested that [students] might be able to take personal nature out of the problems and look at it as an academic problem, so in other words …[think about] some sort of theory as to why that happens and what you could do about it’

The one to one/group sessions offered to each student with the Module Tutor at the end of the Module represented an opportunity for a dialogue to explore what personal learning had taken place during the module. The introduction of this enhancement shows the concern of the Module Tutor to facilitate a deeper personal learning process for students. The Module Tutor himself found this a rewarding process. In effect these sessions evolved in to ‘mini coaching’ sessions, as the Tutor helped students reflect on their personal process and encouraged them to identify strategies for future practice. This has particular relevance for those students entering placements next year. This approach was demanding in terms of time and personal resources for the Module Tutor and there was a move to a group process in the second year. The event management process and progress logs illuminated some specific transferable skills including the capacity
to ‘learn how to learn’. The following quotes provide some insights in how these specific transferable skills were integrated into the module according to the module tutor.

**Transferable Skills and ‘learning how to learn’ -**
Operational problem solving working in teams ‘they’ve to put a plan into action, …they’ve got to start thinking about the nitty gritty, and they also have to start really working with everybody, so they begin to start going through a phase of thinking who they’ve got in the group, and sussing out who’s going to take what role’

**Ethical understanding/ Capacity to learn unfamiliar areas of knowledge.**
‘Well people talk about ethics and I don’t think many people even think about what they are or how it’s impacting. Certainly students don’t, it goes right over their heads but then they actually have to debate it as part the fact that they’d use sex as a sales tool or they were going to give people something [to eat] that is not normally consumed in the way it was consumed’

‘That’s really bringing ethical issues to life isn’t it in a way that’s very engaging for nineteen year olds!’

**Ability to work in a team.**
‘I realised there are were going to be a lot of group meetings … and I thought it would be useful if they could recognise the fact that they’re dealing with different personalities, different skills in the group, utilising different skills in the group’

**Learning how to learn.**
‘The value of it being written down [in progress logs], as opposed to last year when it probably got lost in the ether, was that in three months time they would be able to read it and think gosh that’s the trauma I went through for that!...you know we reflect on things as a matter of course because we’re older, but you don’t necessarily do that at nineteen’

**Develop confidence/ Ability to understand other people/ Transfer skills to placement setting.**
‘I meet some students who are very uncertain about themselves as people …[we need to give them something that] gives them a bit of insight because some of them are very muddled and part of the trick of making a placement work is actually being able to sum up the people you’re working with and responding’

‘We can actually enrich that a bit for them by starting them on track of working with people and understanding what that’s really about’

**Student Evaluation**
The following insights emerged from our evaluative conversation with students. The module engenders excitement for its practical and project based design and also the potential for creativity and autonomy. It is described as being quite dramatically different to other modules that students have experienced because of its practical and work based emphasis. It is a highly engaging module, which engenders a huge emotional investment on the part of many students. Student projects may range in their originality and complexity– in terms of their design, markets they approach and the internal and external parties they engage in the process. The events management process proved students with opportunities for new experiences such as promoting their event on the radio; negotiating corporate sponsorship and professional networking. The event provides students with feelings of contribution and a sense of reward where they were able to donate profits from the event to local charities.

Students were asked to complete a weekly reflective personal progress log throughout the events management process. There are mixed feelings about the completion of the logs. The logs provide a way for students to track their learning through the project; to recognise personal and group progress and identify areas for development. Reflective logs helped some students acknowledge which skills they had and put them into action. Students also acknowledged the logs were useful in processing their emotions about the group work. Not all students could see the value of the logs at the time, but some acknowledged after the event that it had been a useful process. The supported nature of the process (one to one/group review session with the Module Tutor) facilitated this insight. The one to one/group session also represented an opportunity for students to consolidate learning from the process.
Students felt that the progress logs and one to one/groups’ discussion with the module Tutor facilitated a better understanding for the Tutor, of the individual and group learning process; this enabled more equitable allocations of marks and could contribute to the future development of the module. Students perceive a higher level of engagement of the part of the Module Tutor (PA) in the assessment and review process. The support offered by the Module Tutor throughout is highly valued by students, who acknowledge the high level of engagement with the Module Tutor.

The Tutors knowledge of other members in the small group work and of the overall events meant that he can engage in a meaningful dialogue with students, a feature of which was to offer challenge and support. Student evaluations also illustrate that the event management process and progress logs illuminated some specific transferable skills including the capacity to ‘learn how to learn’. These include:

**Students identify transferable skills**

Working as part of a team ‘it developed my team working and team leading skills but then also, kind of, confirmed, confirmed something and made me feel a lot more confident about being a leader’ – I’m very aware that lot’s of members of the group were [quiet] … in all group projects there’s always someone that …..won’t always speak up if they’re worried or if they’re having stress. I just think it’s important that everyone has a say all members of the groups have say because it’s really easy to overlook [people]

**Working with cultural differences**

‘We had a big breakdown [of communication in the group]’ - ‘I think they [English speaking students] saw it as that the quieter members [overseas students] weren’t contributing because they didn’t want to but then if you think about it was because maybe at the bigger meetings they were afraid to in case they got the answers wrong’

**Working with internal/external people to the university**

‘Like liaising with staff, we were sometimes working with difficult people as well, we experienced [one university department]… one member of staff was quite rude and slowly you know, you come up against barriers which kind of de motivate you a bit’

**Managing emotions**

‘I also didn’t know I could get so angry because there were many times when we’ll go to meetings and someone will say something and it will trigger a whole chain of events that will mean that you have a totally unproductive meeting ……… I got very angry and ended up bottling it in I think I would be quite snappy taking my problems home with me…’

Now I know if I have a problem I have to speak up about it, because when you’re working with friends if you hold that tension will end up coming in the end breaking up a friendship so it’s very important to keep work related tensions to the work so they’re not affecting other areas of my life

In 2007 the HOM module was separated into two modules Hospitality Events Management (HEM) and Hospitality Operations Management (HOM) with a focus on accommodation. The success of Hospitality Events attracted a large group of students to sign up to this module and group sizes had to increase because to increase the number of ‘event slots’ in the time available would have saturated the available market. Because of the success of the progress logs and the reflective reports having been firmly established it seemed both obvious and imperative to introduce peer assessment to address the issue of larger group sizes and the inherent conflict of ‘contribution of work’ within the group. The reflective logs tell the story of student journeys through the event management module. As the initial groups are put together there is often a phase of excitement, as the group gets to know each other, the creative possibilities of this module are in the air, as the groups start to think about what they could do. This is followed by a phase where the reality kicks in, this group needs to start to work together and make a plan, and roles need to be allocated in a democratic way. Sometimes there is a clash of ideas in the group and these need to be worked out if the group is going to pull off their event successfully. When things don’t work out, the groups need to reflect on why they chose people for roles they may not be suited to; is everyone pulling their weight; just what is everyone contributing. Often a crisis brings the group together, if tickets aren’t selling it may be time to review the sales strategy and pull together. Sometimes another crisis can lead the groups to jell and start to
work together. In the end, the events all came off successfully due to the hard work of each of the groups and a lot of learning was had along the way.

Previously when group sizes had been three or four an evaluation of contribution was either decided by the group as being equal or if not marks were attributed following a group meeting and discussion with the tutor and all students had to agree the marks awarded to each group member. With group sizes of eight to ten students this mediation was no longer practical and therefore a numerical anonymous system of peer assessment was introduced.

Redesigning the Hospitality Operations Management Module

Using design-based research, we analyse a redesign of a post-graduate course in Event Operations Management at the Faculty of Management at the University of Surrey. An innovative learning environment was redesigned whereby 70 masters’ students interacted in a blended learning context. Ten small working teams were formed at random during the first meeting. The students formally met once a week during three-hour interactive class session in a 15 weeks period. At the same time, students were expected to meet with their peers of their team during the week in order to work on three group processes/products. The first group product was an Event Feasibility Plan. The second group product was organizing planning and running an event. The second group product was the report on the actual event, the planning organizing and running of it to provide evidence that their event idea works in practice.

Providing Structure

First, specific roles were clarified at the beginning of the course (e.g. treasurer, creative artist); whereby students during the first weeks worked together in order to determine which member of the team was most appropriate for which role. Second, after two weeks students created a group contract, whereby specific agreements were made with respect to the respective responsibilities and duties for each role. Third, students were expected to provide peer review (see next section).

Selecting methods of assessment

There is a wealth of assessment methods used in higher education to assess students' achievements, but how to choose? The primary goal is to choose a method which most effectively assesses the objectives of the unit of study. In addition, choice of assessment methods should be aligned with the overall aims of the program, and may include the development of disciplinary skills (such as critical evaluation or problem solving) and support the development of vocational competencies (such as particular communication or team skills.)

Thus, when choosing assessment items, it is useful to have one eye on the immediate task of assessing student learning in a particular module, and another eye on the broader aims of the program and the qualities of the graduating student. When considering assessment methods, it is particularly useful to think first about what qualities or abilities you are seeking to engender in the learners. Nightingale et al (1996) provide eight broad categories of learning outcomes, within each category some suitable methods are suggested. The categories which were considered appropriate for this module were; solving problems, developing plans and managing and developing oneself demonstrating knowledge and understanding.

Variety in assessment

It is interesting to note that Nightingale et al (1996) eight learning outcomes would be broadly expected of any graduating learner from a higher education program. Yet, when choosing assessment items, we tend to stay with the known or the 'tried and true methods', because they seem to have the ring of academic respectability.

From learners' perspectives, however, it often seems as if we are turning them into 'essay producing machines' or 'examination junkies'. When choosing methods it is important to offer variety to learners in the way they demonstrate their learning, and to help them to develop a well-rounded set of abilities by the time they graduate.

It is on this last sentence which we focused, our intention was to offer a means of assessment which allowed students to demonstrate their learning and thus help them to develop a number of abilities and skill during the course of the module.

The first meeting of the group was to; agree team goals, carry out a skills and knowledge assessment, agree individual team roles and agree ground rules for meetings and ways of working. This helped to make...
students aware of the skills and knowledge of each team member. Decide who is going to take on the various roles in the team. What skills and interests do they have and how can you put them to best use? Students undertook a Belbin (2010) Role Questionnaire, which aimed to find out what role best suits each individual. Most team building strategies require teams to consider stakeholders carefully. These are individuals or groups external to the team that are:

a) in a position to help the work of your team
b) in a position to block the work of your team

They have power over the team, interest in the team, or a degree of both.

Students had to consider how to manage key stakeholders. Communication may take time and effort, but it is likely to lead to more successful teamwork in the workplace. It was important to have team members discuss their own tasks / responsibilities and share with the rest of the team in a group setting. That way everyone was clear about the work being done. Team building strategies, such as creating a team charter, require an investment in time. In the course of this students are likely to find that relationships between team members will strengthen as they get to know each other. This would help them through any difficult stages in the life cycle of the team.

What is group work or working in groups in an academic context? There are various definitions but the consensus is that group work is a form of cooperative learning. It aims to cater for individual differences, develop students' knowledge, generic skills (e.g. communication skills, collaborative skills, critical thinking skills) and attitudes.

Recognising this it is used in most Universities and Surrey is no exception, it is used on a range of module at Undergraduate and Postgraduate programmes here. According to Backx, K (2008) commonly identified problem with using group work is that there is little incentive for the students to take this work seriously unless the work is assessed. Individual efforts within the group still need to be evaluated to ensure giving credit where credit is due. The peer evaluation in our module was used to give students the opportunity to express their contribution to; solving problems, developing plans and managing and developing oneself demonstrating knowledge and understanding and to evaluate the contributions of their team mates during the module.

The problem with peer evaluation is that most students feel uncomfortable doing it, yet at the same time feel aggrieved at what they perceive as an unfair attribution of marks that don’t reflect different levels of contribution. Some might argue that it is the responsibility of the lecturer to attribute marks. But in group work 70% of the project is not seen by the lecturer unlike other forms of assessment, e.g. essays or examinations. The development of this multiple peer assessment feedback is designed to address some of these issues.

**Individual reflections and peer evaluations**

After each group process there was a product, each member of the group reflected upon his/her individual role within the team using a peer review tool of WebCT, as is illustrated by the individual reflection by Student X in Figure 1. In addition, each member of the team conducted a peer-review of each member within the team on six categories (i.e. creative input, co-operation within the group, teamwork, problem solving, keeping schedule, effectiveness of performance for event) on a Likert-scale response scale of 1-5. For each category an elaborate grade description was given what is means to be (for example) an excellent contributor to creative input. Students were also encouraged to provide open comments, as is illustrated in Figure 2. In total five peer evaluations were conducted during the 15 weeks. During the first three peer evaluation, the results of the peer-review and feedback were visible to all students within the group. In the two follow-up peer evaluations, the results of the peer-review and feedback were provided anonymous to the respective student only. While the first four peer evaluations were formative and primarily meant for individual reflection, the final peer evaluation was summative, whereby 25% of the final grade was determined by the average peer evaluation scores for each respective student.
Preliminary results

In Table 1, the preliminary results of usage of the individual reflections and peer-evaluation are illustrated. On average 7.31 individual reflections per group were posted during the first measurement, which remained more or less stable in the follow-up two measurements. The number of reviews received by peers per message posted by each student was 4.57 during the first measurement, which subsequently steadily increased to 5.07 reviews during the third measurement. This indicates that students were actively reviewing each other’s contributions to the team and event. Finally, the number of replies on the reflections
by peers was limited from the beginning of the module, indicating that students preferred to provide numerical peer reflections rather than qualitative responses.

Table 1 Usage of individual reflection and peer-evaluation during first three measurements

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<th>Week 1-3</th>
<th>Week 4-6</th>
<th>Week 6-8</th>
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<tr>
<td>Individual reflections</td>
<td>7.31</td>
<td>7.63</td>
<td>6.83</td>
</tr>
<tr>
<td>Reviews received</td>
<td>4.57</td>
<td>4.90</td>
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<td>Replies to reflections posted</td>
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References


Fostering Creativity in Business Education – The Creativity Night at a French Business School

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Abstract: This paper provides a brief overview of creativity research and discusses some different approaches taken by universities and business schools to foster creativity in their students. The focus of the paper is the description of a creativity workshop, which has taken place at a French business school for the past three years. Student perceptions of this creativity workshop are employed to evaluate this creative experience and to make recommendations on how future creativity workshops should be improved. This paper will be of particular interest to practitioners and educators interested in running creativity workshops in business schools and also professionals as the methodology described can be directly adapted to managerial and classroom situations to help managers or students find creative solutions to challenging problems.

Introduction
Creativity is considered by many to be an essential competence in the 21st century for business managers and leaders, and is often sought by major corporations as evidenced by the listing of this competence in their competency model framework for recruitment purposes. There have been a plethora of books and publications about creativity since the 1960s but this term still remains rather nebulous. This paper will look at creativity research, teaching for creativity, outline a creativity methodology and evaluate student perceptions in four major sections. First, a brief overview of the key research over the past 60 years is presented to position creativity within the different research approaches and to tease out the theoretical origin of key concepts and terms, which influence and impact on creativity training. Second, institutional reports are positioned prior to discussing three approaches to teaching for creativity in business education. Third, a seminar that has been conducted at a French business school over the past three years will be described in detail. The seminar in question, The Creativity Night, is run by a creativity expert and a team of facilitators with 624 business students, who are commissioned by external third parties (companies, museums, trade fairs) to work on a specific company project as creativity consultants. Finally, the student perceptions of this seminar were collected via a brief questionnaire. This student feedback will enable the organizers to recommend improvements and modifications to the existing creativity seminar for the following academic year. The objectives of this paper are: 1) to present useful creativity research to practitioners and educators interested in running workshops and seminars on creativity in business schools and with business professionals; 2) to outline a creativity workshop methodology that can be directly adapted to many managerial and classroom situations to help students find creative solutions to difficult issues/problems; 3) to evaluate the student perceptions of creativity workshops and make recommendations.

Creativity Research
The genesis of creativity research is often credited (Sternberg, 1999; Kaufman & Beghetto, 2009; Meusburger et al, 2009, among others) to the APA Presidential address given by Guilford (1950) in which he challenges psychologists to pay more attention to creativity and to conduct more research in the area. Sternberg (1999: 4) outlines the six main approaches that have been used over the years in the study of creativity: 1) mystical; 2) pragmatic; 3) psychoanalytic; 4) psychometric; 5) cognitive; and 6) social-personality. The mystical approach refers to the divine intervention or empty vessel understanding of creativity, which means that creativity is often not seen as something that can lend itself to scientific study and is somehow spiritual in nature. Sternberg (1999) describes this approach as an explanation for the lack of credibility given to creativity research. He is equally skeptical about the second approach, the pragmatic approach, which he considers as damaging to the understanding of creativity. He particularly criticizes the work of DeBono (1971; 1985; 1994), who has introduced concepts such as “lateral thinking”, “thinking hats” and “parallel thinking” and Osborn’s (1953) work on “brainstorming” as unscientific, and says that “these approaches lack any basis in serious psychological theory, as well as serious attempts to validate them” (Sternberg 1999: 5). The third approach, the psychoanalytic approach was taken up with the analysis
In this brief overview of creativity research, we can see that there are many researchers with different approaches (psychometric, psychological, cognitive, etc.) and that there is a main distinction made between scientific and psychological research, on the one hand, and unscientific “commercial” and pragmatic work, on the other hand. If we look across the research presented above, some key terms and concepts arise that are important for the development of a creativity model that will help practitioners develop creativity methodologies. The concepts I would like to look at in particular are the following: 1) convergent and divergent thinking; 2) parallel thinking; 3) brainstorming and mega-storming; 4) creativity traits; 5) intrinsic motivation; 6) the environment; 7) analysis and synthesis.

Intrinsic motivation; 6) the environment; 7) analysis and synthesis.

divergent thinking; 2) parallel thinking; 3) brainstorming and mega-storming; 4) creativity traits; 5) methodologies. The concepts I would like to look at in particular are the following: 1) convergent and
1) Guilford (1967) in his work draws a clear distinction between convergent and divergent thinking, whereby the former aims at a correct, single solution to a problem and the latter involves creative generation of multiple answers to a set problem. Both are used in creativity workshops in that you initially ask participants to generate many ideas prior to asking them to choose the idea they prefer and intend to present to the public at the end of the session.

2) DeBono (2010) defines parallel thinking as follows: “With ‘parallel thinking’ both sides (or all parties are thinking in parallel in the same direction. There is co-operative and coordinated thinking. The direction itself can be changed in order to give a full scan of the situation. But at every moment each thinker is thinking in parallel with all the other thinkers. There does not have to be agreement. Statements or thoughts which are indeed contradictory are not argued out but laid down in parallel. In the final stage the way forward is ‘designed’ from the parallel thought that have been laid out”.

3) Osborne (1953) brainstorming involves the generation of many ideas in order to find a solution to a problem. Mega brainstorming is the generation of hundreds or thousands of ideas by many people all working on the same problem or issue.

4) Sternberg (2000) believes that people are creative because they have decided to be so and that there are decisions that underlie creative thinking. He outlines 12 decisions to include redefining the problem posed; analyzing you own ideas; selling your ideas; realizing that knowledge is a double-edged sword; surmounting obstacles; taking sensible risks; being willing to grow; believing in yourself; tolerating ambiguity; finding what you love to do and doing it; giving yourself time; and accepting mistakes.

5) Amabile (1983) believes that intrinsic motivation, i.e. the tendency to engage tasks because one finds them interesting, challenging, involving, and satisfying, to be key to being creative.

6) The environment is of paramount importance and forms parts of various different models of creativity explicitly (Amabile, 1983; Sternberg & Lubart, 1991; Csikszentmihalyi, 1990; 1996; 1999). There is a strong argument for taking students or managers out of their habitual environment to engage in creativity work. The time of day when people are considered more creative is also important. In the creativity workshop described below, it was decided to hold the workshop at night based on research (Giampietro & Cavallera, 2006) that states that people are more creative at nighttime than in the daytime.

7) There are several personality traits (as mentioned above) that are considered as crucial in creativity exercises. These traits must be positioned explicitly at the beginning of the creativity workshop.

Having set out a brief overview of the creativity research since the 1960s and the aspects of this research which are directly relevant to the conceptualization of a creativity workshop, we will now turn to some approaches used in business schools and universities and by creative consultants to foster creativity in business students and managers.

Creativity in Business Education

Here, we would like to describe three different approaches to the incubation of creativity in education. The three approaches described below are teaching for creativity, i.e. the pedagogy designed to encourage other people to think creatively. The students are encouraged to experiment and innovate and not all the answers are given but the tools are provided to explore new avenues in order to find innovative solutions. The three approaches include a creativity paradigm, a creativity process, Lego Serious Play and a creativity method.

The first approach involves the development of a creativity paradigm in the classroom. Byrge & Hansen (2009) developed a creative platform in which they integrate different theoretical perspectives of creativity: 1) biological; 2) cognitive; 3) knowledge; 4) social; and 5) motivational perspectives, which are further conceptualized into four pillars that form the concept of the creative platform – 1) non-judgment; 2) task focused; 3) parallel thinking; and 4) horizontal thinking. They advocate a six step phase of creativity: 1) preparation; 2) red carpet; 3) presenting the problem; 4) idea development; 5) professional input; 6) the blue carpet. They stress the need to organize the course in a linear fashion, to arrange the course as a camp away from the usual classroom environment and ensure there are no assignments, evaluations or other similar activities that are reminiscent of traditional classroom activities. Preparation involves being mindful of parallel thinking and preparing the subtasks on individual pieces of paper and ensuring that everyone is together. The red carpet phase sets down the rules of the road such as non-judgment, task focused behavior, parallel thinking, horizontal thinking (i.e. focusing on new knowledge constructions via techniques such as
synthesis, intuitive pattern recognition, and brainstorming), which creates new rules of thinking and new rules of interaction. Presenting the problem involves presenting both the problem and then the various subtasks. Idea development uses horizontal thinking and involves coming up with as many ideas as possible. Idea development starts by finding analogies like persons, animals or plants as stimuli. No judgment is allowed during the idea generation stage. Professional input involves the input of new knowledge from a person whose knowledge is different from the students and who is held in high esteem by the students. The blue carpet phase brings the students back to vertical thinking again by asking them to present their ideas to others that did not participate in the idea generation.

The second approach involves teaching a subject creatively. An example here is Lego® Serious Play®, which is an innovative, experiential process designed to enhance innovation and business performance. Developed by Roos & Viktor (1998; 1999), the process has been employed by various managers and scientists and is based on extensive research (Bürgi & Roos, 2003; Roos, 2004; Roos & Said, 2005; Roos, 2006; Statler et al., 2008; 2009, among others) that this kind of hand-on, minds-on learning produces a deeper and more meaningful understanding of the strategic problems being tackled. Lego is used by managers as a metaphor for real world organizational strategy problems in a company. The serious play process results in the construction of how individuals perceive their entire organization and how a particular strategy challenge can be dealt with. According to Roos & Grey (2003) “by playing with Lego bricks …we let go of purely rational thinking and prepare our mind for the inevitable consequence of complexity”.

The creativity method posited by Theodor (2010) comprises five phases: 1) presentation; 2) induction; 3) analysis; 4) synthesis; and 5) evaluation. Theodor believes that creativity is based on action, connection and deviation preceded by focusing on the problem and followed by an evaluation phase. First of all, you focus on the problem in the preparation phase by asking questions such as what the challenge is, who is the target audience and what is the purpose. Once you have focused on the issue, you can move on to the induction phase, where you brainstorm lots of ideas in the action phase. In this phase, you suspend all judgment and self-censorship and hesitation; you produce a quantity of ideas until the time is up. In the analysis phase, you set about organizing your ideas by linking ideas, strengthening the message and telling stories. In the synthesis phase, you look for uniqueness by looking at things through different eyes. The final phase is the evaluation phase, where you review all ideas and put the best ones forward. We believe that these creativity paradigms, methods and processes are extremely instrumental in fostering creativity in business education and in the next section; we will outline The Creativity Night, a creativity seminar that has been practiced at a French Business School over the last few years.

**The Creativity Night at EDHEC Business School**

Mark Raison, creativity consultant and founder of Yellow Ideas (http://www.yellowideas.com/) has worked at business schools facilitating creativity seminars for many years. In this section, we will describe how the Creativity Night was designed and also explicate the creativity methodology employed by Mark Raison. The aim of the Creativity Night was to enable business students to live a creative experience that is both original and useful: Original in the sense that they acquire a creativity methodology that they can take away and use in their student societies, meetings, and professional life; useful in the sense that the students work on a real consultancy project. The reason why the seminar was organized at night is that recent exploratory research by Giampietro & Cavallera (2006) seems to suggest that subjects inclining towards a nocturnal dimension (“night owls” rather than “morning larks”) had higher scores in those components of creative thinking such as fluidity, flexibility and originality with a clear correlation between nocturnal inclination and originality. Over the last three years, EDHEC Business School has worked with external parties to ensure that the seminar has a real dimension as the students work on a mini-consultancy project. Examples of the projects that the students have worked on over the past three years include:

**2008 –CREER Forum - Lille International Forum on Entrepreneurship**

The theme of the Creativity Night in 2008 was how to make the North of France a European entrepreneurial hub. The forum was an initiative of Bruno Bonduelle as President of the Lille Chamber of Commerce and was the first European event dedicated to company growth, the financing of start-ups, innovation and entrepreneurial spirit. The idea behind the forum was to provide a platform for European and international entrepreneurship experts to showcase European entrepreneurial spirit. The ambition was therefore to re-inject the passion of innovation and entrepreneurship into the Nord Pas de Calais region. EDHEC students were invited to reflect on how to make the region a European entrepreneurial hub.
2009 – Promotion of an Art Exhibition (The Bloomsbury Group) at La Piscine Roubaix
In autumn 2009, La Piscine Museum in Roubaix organized a major exhibition entitled “The Bloomsbury Group”, which was the first time that a French museum presented the art and work of this group of intellectuals and creators. The management of the museum asked EDHEC Business School to work with their students in order to promote this exhibition and develop a communication plan.

2010 – Find a student mascot for the inauguration of the new EDHEC Business School campus
Inspired by American campuses and international sporting events as well as universal exhibitions, the 2010 Creativity Night involved the creation of a school mascot for the new business school campus that was inaugurated in 2010. Three mascots were chosen and then voted on by staff, faculty and students on the business school website. A team of students were also asked to work on the tie-in products of the business school mascot such as the cuddly toy, key rings and other accessories. A percentage of the profits from the sale of these tie-in products will be given to charity. Once the three finalists were chosen, a graphic artist created a cartoon figure prior to the voting online.

Once the external parties have presented their problem to the business students, Mark Raison and his team of organizers explain the creativity methodology. This methodology is divided 6 steps as described below:

Step 1: Sharing the question
Here the participants read the task or question assigned, the creativity methodology, and all other information concerning timing and other logistics. For approximately 10 minutes, all participants express freely whatever the issue inspires in them without expressing their opinions on the contributions of others in the group. An elicitation technique such as “this question make me think of …” is useful here to get the creative juices flowing. The main aim of this step is to be inspired and to prepare the participants for creative reflection.

Step 2: Generating ideas freely
This is the step where the participants generate ideas freely. Each participant uses post-its to note down their ideas completely. As these ideas are generated by the individual participants, they are read out to the other members of the group so that their peers can reflect on the ideas. The post-its are then stuck to a large flipchart paper in four columns as the ideas are generated. It is important that the ideas are not discussed; they are just written down and posted up. It is also imperative that there is only one idea per post-it. The process is simple – each participant writes down their idea on a post-it, reads it out to the group and sticks it to the flip chart. The different participants in the groups are inspired by each other’s ideas and the following rules are respected scrupulously:

1) No criticism or censorship is permitted
2) Be inspired by the ideas of others
3) Note down all ideas completely, not just the keywords
4) Take all the details into account
5) Allow your imagination to run freely

When the group is all out of ideas, the “wall of creativity” has been reached. This is when the real creation begins.

Step 3: The Famous Person Technique
To create new ideas, you must call up famous people. The aim here is to generate further inspiration. The Famous Person Technique begins by establishing a list of 12 famous people. You must insure that the famous people chosen are very different from one another, for example – a writer, an actor, a politician, a sportsperson, a journalist, a chef, a comic figure, a general, a business woman. They can be of any nationality; alive or dead; real or imaginary; mythical or virtual. The participants take the first person on their list and ask themselves what this person would have to say about the problem assigned. Everyone notes all the ideas that come into their heads on a post-it—only one idea per post it. When the group is all out of ideas from the first famous person, they move onto the next famous person on the list and this process continues until all 12 famous people have inspired many more ideas. It is important to understand here that this technique is not about rediscovering the ideas that the group generated in Step 2 but about...
inventing, discovering, forging, and generating totally new ideas that are unknown, astonishing, even crazy. During Step 3, the same rules apply as in Step 2 and participants are not allowed to criticize or judge the ideas put forward.

**Step 4: Evaluating the ideas**
The ideas on the flipchart are numbered from 1 to n. The participants are given 12 blue stickers; 12 red stickers; and 12 yellow stickers. The blue stickers represent ideas that are easy to implement; the red stickers are original ideas that are implementable; and the yellow ideas are original ideas that are unrealizable and impracticable. The participants read all the ideas in silence and then attribute a sticker in the color of their choice to the various ideas on the flipchart. When all participants have stuck all their stickers, a new flipchart paper is stuck up and divided into three columns (a blue, red and yellow one) and the ideas with the most votes in each color are stuck in the three columns. If an idea has all three colors, then the majority color wins. If there is an equal amount of two colors for any idea, the idea is discussed in the group until a decision is reached.

**Step 5: Selecting the ideas**
The group decides on the three ideas that they will retain: a blue idea, which is both easy and important to implement; a red idea which is original and pertinent; and a yellow idea, which is impossible to implement but full of promise.

**Step 6: Creating a poster**
The group then draws their final poster on a flipchart. The poster must be creative and original and include the following information: the question asked initially, the blue idea, the red idea and the yellow idea and the names of the members of the group. A second poster provides a visual of the outcome of the Creativity Night. A leader is chosen in each group to present the group and the work.

Having presented the creativity method of the Creativity Night, we would like to outline some of the student perceptions of this creativity experience and the recommendations on how we intend to improve this creativity seminar for 2011.

**Student Perceptions of the Creativity Seminar**
*The Creativity Night* took place on 8 November 2010 from 7 pm until midnight with 624 students in groups of 12 and 52 student facilitators. The timing of the creativity seminar in 2010 differed from previous years as instead of if being organized during the orientation seminar; it was decided to hold the seminar two months into term. This decision was taken due to the nature of the exercise (choosing a mascot for the new campus) as it enabled the students to appropriate their new campus prior to reflecting on a campus mascot. Three months after the seminar, a five-item questionnaire was distributed to all those who took part. We are mindful of the impact that this time period between the creativity experience and the collection of perceptions has on the results presented below but we felt it important to distribute this questionnaire after the vote of the winning project. Out of the 624 questionnaires distributed, 146 students responded, *i.e.* a return rate of 23.3%. The five questions asked were:

1. What do you remember from the Creativity Night 2010?
2. Will the creativity exercise be useful in your diverse activities?
3. Would you like to experience a similar exercise before the end of your business studies program?
4. Do you believe that you are more creative at night?
5. Quote three words that sum up the Creativity Night?

We chose only five items in the questionnaire to ensure that the questionnaire would be completed by the students. The analysis of the first question shows that the majority of students enjoyed the experience with expressions such as “creative moment, stimulating experience, good ambiance, team work, good evening, group work, conviviality, nice atmosphere in a cohort, enthusiasm, very enriching implication by facilitators” being mentioned frequently. Some negative comments include “evening was too long; much ado about nothing, difficult for all members of the teams to express themselves, disappointing result”. For question two, 105 out of 146 students believed that they could use the methodology in their different activities at school and in the workplace. We suspect that this number would have been higher if the students were working on a subject that was closer to their preoccupations. However, this figure is
interesting as it shows that in a playful context, the students are capable of discovering the formative qualities of a creative experience. For question three, 88 out of 146 students expressed that they would like to experience a similar experience before the end of their business studies program. This shows the interest the students place in such an exercise. For question 4, 62 students believe to be more creative at night with 81 believe that this is not the case. It would have been interesting to have more information on why they believe this to be the case as further explanation would be helpful to the organizers of the seminar. Is their negative response to this question cultural for example as French students associate school and learning with daytime rather than nighttime? As regards the three words that sum up the Creativity Night, “original/originality” appears 25 times; “long”, 24 times; “stimulating/inspiring”, “innovating”, “proliferation”, “convivial exchange”, and “funny/amusing” more than 10 times each. Some negative words cited include “boring, waste of time, superficial, fatigue”.

We acknowledge that had we distributed the questionnaire earlier, we would have more data to evaluate the student perceptions. The students found the theme of the 2009 Creativity Night more interesting as the students had to create a communication plan for a local museum. The discussion they had with the second year students, who experienced this creative experience, biased their responses as evidenced in the questionnaire. The students also appreciated the ambiance created by the creativity coach but found the logistics difficult due to the amount of people involved. The general impression and perception is rather positive however and we intend to repeat this experience in the future but we will be more vigilant next time to collect data on perceptions immediately after the seminar.

The Creativity Night requires an orchestra conducted by Mark Raison and his associate Martina Mayers, both creative management trainers and a team of 52 student facilitators, who must motivate their teams and ensure that they stick to the timing. The day before the Creativity Night all student facilitators are trained on the mega/brainstorming technique used by Mark Raison. EDHEC colleagues and staff are available to ensure that the students have what they need and understand all the instructions given.

**Recommendations for the Creativity Night in 2011**

1. All students will be trained on brainstorming techniques and a group of students will then be asked to facilitate a group of 12 as opposed to only 52 students being trained as facilitators. This will enable a greater efficiency in the creative process as all students will be on the same page as regards brainstorming.

2. An external partner will be asked to provide a mini-consultancy project for the purpose of the creativity seminar. The partner will come and present their project to the students and will then evaluate the ideas at the end of the seminar.

3. No significant changes will be made to the methodology described above as students were happy with the timing and the framework of the creativity exercise. The method employed incites students to give their best during the exercise.

4. We will also maintain the creativity seminar at nighttime despite the student’s lack of approval as this disconnection enables a different vision of things and a concentration of energy that is not possible during the daytime. The creativity expert, Mark Raison has also found that choosing a time outside the normal school or work time is conducive to the emergence of original ideas. The simple fact of not being in an “ordinary” context fosters the emergence of “extraordinary” ideas.

**References**


Notions of Belonging: the Students' Perspective

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Students’ classroom engagement, academic effort and subsequent success or failure is influenced not only by individual differences in skills, abilities and predisposition, but also by many situational and contextual factors. One aspect of the social context of special relevance to education is students’ sense of belonging or psychological membership in the University or in the classroom, that is, the extent to which students feel personally accepted, respected, included and supported by others in the social environment. Developing a sense of belonging is a particular challenge for inner city universities with their diverse student body (Stuart, Lido and Morgan 2009).

Research conducted with high school students shows that the sense of belonging leads to better academic motivation, lower rates of drop-out, higher grade point average, better socio-emotional functioning (Anderman 2002, Shochet et al., 2006). US research demonstrates that among undergraduate students the sense of belonging leads to greater involvement in campus organised activities, lower level of depression/loneliness among African American and Caucasian students and that students at a disadvantage may benefit more from a sense of belonging than other groups (Anderman and Freeman 2004, Mounts 2004). A recent study (Stuart, et al 2009) examined different ethnic groups experience of social identity and the factors affecting a positive HE experience and degree attainment. Their findings indicate that students from lower socio-economic groups are least likely to engage in clubs and societies. Research carried out at LMU showed the positive impact of curriculum initiatives on retention and attainment in first year undergraduates (Johnson et al 2009). A QMUL pilot in the summer of 2009 utilised the Psychological Sense of School Membership (PSSM), (Goodenow, 1993) instrument and semi structured interviews to measure sense of belonging among undergraduate economics students. Westminster Business School has also addressed this issue in its revised first year curriculum.

One consequence of the UK Higher Education policies around internationalisation and widening participation is that students enter HE with increasingly diverse biographies, expectations and constraints (Holley & Oliver, 2009). Key messages from the first year transition research relate to the importance of developing a concept of belonging (Kember et al, 2001; Hand and Bryson, 2008). Our study seeks to address the gap in knowledge around the first year student experiences of ‘belonging’ in three different institutions, one pre-1992 university and two post-1992 universities by:

- Developing a measurement of belonging, based on previous work that draws upon evidence based practice;
- Using the instrument to investigate the determinants of sense of belonging with particular focus on differences across ethnic minority students and gender;
- To compare and contrast these determinants across institutions all of which share a diverse ethnic/gender mix and are inner city institutions sharing the specific challenges that arise from their geographic location in developing a sense of belonging ie most students are off-campus, many commute long distances;
- Explore the effectiveness of different initiatives/practices within institutions and their impact on students’ sense of belonging using the measurement of belonging;
- to capture the student view by undertaking a series of interviews following the cultural narrative tradition;
- Bringing together international research in the field of students belonging and articulating a student perspective of belonging in a UK inner-city context.

The research is divided into two main stages. In the first stage students’ perceptions of ‘sense of belonging’ and ‘engagement’ is measured through questionnaires distributed across the three Institutions. The questionnaires measure the student’s perceived sense of belonging by using the Psychological Sense of School Membership (PSSM) tool (Goodenow, 1993) and their engagement with school’s activities through a modified version of the Australasian Survey of Students Engagement (AUSSE, http://ausse.acer.edu.au/).
In the second stage of the research, the investigation will be supplemented by selected interviews with students, drawing upon research interviews that will be interpreted within a qualitative tradition of ‘cultural stories’ (cf Miller and Glassner 1997). We are interested in how students narrate their experiences of belonging, the meaning they ascribe to their narrations and the insights these can offer our emerging understanding into the factors impacting on a student sense of belonging. The paper that we intend to present at EDINEB’s conference draws from the first stage of the research. Presently about 1,400 questionnaires have been collected from the three participating Institutions and a quantitative analysis is in the process of being carried out. The paper will present these findings with particular focus on the actual measurement of sense of belonging and on the students’ level of engagement. These findings will be correlated to a set of biographical measures that will help highlight any pattern in the data.
**Perspectives and practice: Making the MBA relevant to the 21st century manager**

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**Abstract:** This paper presents data and analysis from the initial stages of a larger evaluation of a new Stage 1 MBA module at the Open University Business School. Our evaluation focuses on collaborative learning – both in terms of the learning that students do in virtual groups and the collaborative learning of tutors. In a small-scale study, which is part of a larger planned evaluation, we analysed semi-structured discussions with three tutors who also fill roles that facilitate learning among their fellow colleagues on the module. These discussions have helped to surface important issues such as how supportive, collaborative environments can assist in developing and implementing new pedagogical frameworks for MBAs, including the use of more facilitative approaches in teaching practice, and ways in which debate and silence in online discussions can be managed.

**Introduction**

The 21st century economic and business environment is intensifying the need for managers to both possess a wide range of skills and knowledge and to develop their capabilities to apply and continuously improve these. Set within the context of today’s interconnected world, contemporary management requires global perspectives coupled with practical skills that support the development of interpersonal relationships and increasingly overlapping social and professional networks (Ettlinger, 2003). Huge uncertainty in economic and political environments has led to complex decisions and risks that cannot be addressed with a one-size-fits-all approach. Surrounded by information in our digital environment, discernment and sensemaking become crucial tools for the effective manager.

A recent curriculum re-design for The Open University Business School’s New Masters in Business Administration (OUBS’s New MBA) gave us an opportunity to reflect on past successes and the continuing challenges in helping our students make the connection between theory and practice and to prepare them with the skills needed to meet these 21st century challenges. This work occurred against a background of escalating criticism of business schools, and MBAs in particular. Influential articles questioned the relevance of a conventional MBA education to the world of practising managers, and no evidence was found that possession of an MBA correlated with career success (Pfeffer and Fong, 2002). To Pfeffer and Fong’s (2002) question, ‘Why is there so little effect of the MBA on graduates?’ (p. 83), we added ‘What is the role of content?’ and ‘How can we improve the integration of practice-based learning?’ as central questions to respond to criticisms that MBA qualifications are overly functionalistic (Latham, Latham and Whyte, 2004) and do not meet the needs of practising managers (Leavitt, 1989; Mintzberg and Gosling, 2002; Pfeffer and Fong 2002; Mintzberg, 2004).

This paper presents some of the lessons we have learned in the re-design and delivery process for the New MBA’s Stage 1 module: ‘Management: Perspectives and Practice’. We present some early reflections on the emerging issues we have faced in the opening year of the module and highlight two developing communities of practice and learning: 1) An active online tutor forum where the module’s Associate Lecturers (ALs) share perspectives on their teaching practice; and 2) Vibrant online student forums where students share their practices, experiences and learning across international boundaries, sectors and work settings.

**Structure of the paper**

To begin, we briefly cover the background to the module’s development, including the brief we were given, some of the key challenges we faced and some of our early lessons. This is followed by a discussion of the literature with a particular focus on aspects of social learning theory and collaborative learning and the development of communities of practice. Third, we discuss our research methods and the early data we have collected. Fourth, we present our analysis, discussion and finish by discussing our contribution to the literature, limitations and next steps.
Background
The OUBS’s MBA programme began in 1988, five years after the school was founded. The OUBS and the MBA are accredited by AACSB, EFMD (EQUIS) and AMBA. The MBA is offered in the Open University’s ‘supported open learning’ model (McAndrew and Weller, 2005), which provides a mix of self-directed learning through OU-published course materials (online and offline) and face-to-face and online interaction with locally-based ALs (tutors) each having a group of about 15 module students. This supported open learning approach allows the school to have a world-wide, 30,000-plus student body, with OUBS students enrolling from 107 countries in 2009. Nearly 350 students began working with 25 ALs the Stage 1 module of the New MBA (the focus of this paper) in November 2010, with another cohort to begin in May 2011. The OUBS MBA has, over the last 20 years, increasingly sought to explicitly link our students’ studies to their work contexts in order to develop ‘reflective practitioner’ (Schön, 1983) graduates. However it is acknowledged that we have further to go down this pedagogical road, in a rapidly changing environment.

Module Brief
The OU serves a primarily adult learner population, and most of OUBS’s MBA students are working and employed in management roles. Therefore, we had a number of critical aspects that we needed to include in the design of the Stage 1 module. Most importantly, it needed to be structured so that it balanced a flexible, distance learning environment with the need to meet accreditation standards on content. To address this issue, we have used a resource-rich and activity-based pedagogy that combines a knowledge-based curriculum with skill-building activities, critical analysis exercises and opportunities for students to apply what they are learning in their own practice. These activities divide the work into two-week periods of online work, which we have called ‘Management Development Activities’ (MDAs). The MDAs allow for student-led learning and drive the sensemaking and integration of content with elements of practice-based learning. MDA learning activities include:

1. **Practice-based learning:** Student engagement with ideas is supported through a year-long work-based learning project (the ‘Evidence-Based Initiative or EBI), which allows them to critically engage with ideas in their practice context. In the former MBA programme, the EBI was a feature of the capstone module, only. However, it became clear that students would benefit from greater preparation to undertake the capstone module. In integrating the EBI at the start of their MBA studies – albeit in a less intensive fashion than in the capstone module – we have needed to find ways to introduce EBI-related skills (in research, in understanding the use and critical analysis of theory, and in reflective practice) while giving enough time for content and other skill-building activities.

2. **Information discernment:** We build student skills in digital literacy and practising discernment through a resource-rich learning context that helps them to develop skills in how to access information and discern its validity and utility. The online MDAs are supported by online and offline resources – with activities that support information literacy, reflection, critical analysis and application of ideas in practice.

3. **Reflective practice:** The module provides explicit space for reflective practice. Providing this space proved to be extremely challenging as we needed to meet accreditation content criteria and wanted to provide room for students to develop their reflective practice skills.

4. **Collaborative learning:** We provide multiple opportunities for students to learn from one another – both formally and informally. The online learning space we use (which incorporates the open-source ‘Moodle’ virtual learning environment (VLE) platform) – coupled with asynchronous forums and synchronous audio/visual conferencing – allows students to develop their social networks and to benefit from collaborative learning at a distance.

This last issue – collaborative learning – provides the focus for our discussion in this paper as we are finding that the developing communities of practice are enhancing learning in unexpected ways. In addition to the formal opportunities for collaborative learning that are written into the module, students are developing informal groups and conversations in an online Student Café forum, which is an informal virtual gathering space open to students across all tutor groups. Perhaps more interesting, however, is the mirroring community of practice developing amongst the ALs in their online forum. We will discuss this latter emerging community of practice after the brief review of the literature, which follows.
Literature review
In this brief review we discuss two different, but related, areas of the literature on social learning – communities of practice and collaborative learning.

Communities of practice
Lave and Wenger’s (1991) ideas on the emerging communities of practice as means of disseminating and codifying knowledge are well-established in the literature. Previous OUBS MBA courses have seen the development of communities of practice, for example when ALs have been involved in teaching a new subject for management education – managing knowledge – where a mutually-supportive learning community was an essential feature (Quintas & Fowle, 2002; Little, Quintas and Fowle, 2003). People in these emergent systems form common understandings of norms and meaning and create resources to disseminate this developing knowledge and to guide further social learning (Wenger, 1998). The communities of practice model focuses on the social and relational aspects of learning and the negotiation of meaning that thus evolves from these interactions.

However, Roberts’ (2006) summary of various critiques of the model surfaces the issue of power and control and that not all members of a community of practice will be able to (or feel able to) participate as fully as others. These issues, in their turn, can influence the degree of trust among community members and the limits of innovation that can be engendered by the community. These are important criticisms that have particular relevance to the emergent community of practice we discuss here.

The ALs tutoring on the Stage 1 module come from a wide range of professional backgrounds, some with academic experience, some without, some with greater knowledge of the different subject areas (e.g., finance and accounting) and some with greater experience of tutoring with the OU. For this reason, we suggest that this diversity (in experience, and therefore in power, etc.) within the group provides a fruitful forum in which to not only exchange and share practices for the purposes of codifying knowledge (or even modeling behaviour, á la Bandura (1979)) and facilitating innovative practice but that such social learning allows for critiques of practice that may not necessarily be identified within a ‘community of practice’ model. This is where collaborative learning can be a useful way of better understanding the group interactions.

Collaborative learning
Collaborative learning and other similar approaches to social learning pedagogies emerged from several different sources including problem-centred approaches, co-operative learning models, Harvard case study analysis, and peer teaching (Smith and MacGregor, 1992). Similar collaborative learning principles formed an important part of Vygotsky’s (1978) approach to cultural learning, which was later expanded by Bruner (1985) in reference to peer support in problem-solving contexts.

However, it is Bruffee’s (1984) discussion of Richard Rorty’s argument of ‘normal’ and ‘abnormal discourse’ that appreciates the diversity within an emergent community of practice (Rorty, 1979 in Bruffee, 1984). ‘Normal discourse’ is that which is governed by a set of negotiated norms for interaction (e.g., what is appropriate for discussion and how discussion should be made). Such discourse leads to a process of ‘socially justifying beliefs’:

‘We socially justify belief when we explain to others why one way of understanding how the world hangs together seems to us preferable to other ways of understanding it. We establish knowledge or justify belief collaboratively by challenging each other’s biases and presuppositions; by negotiating collectively toward new paradigms of perception, thought, feeling, and expression; and by joining larger, more experienced communities of knowledgeable peers through assenting to those communities’ interests, values, language, and paradigms of perception and thought.’ (p. 646)

However, it is ‘abnormal discourse’ that has the potential to develop a conversation beyond the given norms – thus leading the way toward continued innovation and learning:

‘The importance of abnormal discourse to the discussion of collaborative learning is that abnormal discourse serves the function of helping us…to see the provincial nature of normal discourse and of the communities defined by normal discourse. Abnormal discourse sniffs out stale, unproductive knowledge and challenges its authority, that is,
the authority of the community which that knowledge constitutes. Its purpose, Rorty says, is to undermine “our reliance upon the knowledge we have gained” through normal discourse. We must occasionally undermine this reliance because normal discourse tends to “block the flow of conversation by presenting [itself] as offering the canonical vocabulary for discussion of a given topic” (1979, 386-387)’ (Bruffee, 1984, p. 648)

Educators, Bruffee notes, must balance these two modes of learning – to ‘perform as conservators and agents of change’ (p. 650), and therefore educators must help students to develop – in their learning discourse – ways to conserve the knowledge that has been gained and to critique it.

**Methods (paper methodology and data)**

This paper reports on the initial findings of a larger research agenda to explore and evaluate the collaborative and practice-based learning occurring in the Stage 1 MBA module. The initial data collection, which is being used to develop a more detailed evaluation of the module, is derived from discussions with three of the module’s tutors, each of whom plays a greater role in managing tutor collaboration on the module.

Discussions were held with these tutors via e-mail, where we requested that the participants answer four questions (see Table 1):

Table 1: Questions for initial data collection on collaborative learning among tutors on the Stage 1 module.

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<td><strong>1.</strong> How have you seen your own learning develop on the module in regards to your teaching, etc.?</td>
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<td><strong>2.</strong> In which ways has the tutor forum helped you (or not) in this learning?</td>
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<td><strong>3.</strong> How do different points of view in the tutor forum help to take learning further?</td>
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<td><strong>4.</strong> What parallels might be drawn with the learning taking place in your tutor group forums*?</td>
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*Tutor group forums (TGFs) are online forums for specific tutor groups which are facilitated by their assigned tutor. The tutor forums are used for structured discussion activities and for unstructured dialogue among students and the tutor.

All participants in this initial data collection voluntarily agreed to participate and to allow us to use their responses as part of this paper. The data are being used to develop a broader agenda for evaluating the module and gaining the perspectives of the tutors who teach on it. It should also be noted that, the module is formally evaluated through quantitative analyses of student progress, qualitative feedback from students, and feedback events from tutors following the presentation. Running parallel to these module-specific evaluations are more reflective evaluations by the module’s leadership (e.g., Reid & Robinson, 2011), which seek to surface and discuss tensions regarding the changing landscape of course design and teaching. They are also part of a broader agenda sponsored by the university’s leadership to raise the profile of pedagogical scholarship to support teaching innovation and to improve quality and efficiency.

This initial data set, however limited, provided us with interesting feedback in which to think about how we might develop a more detailed evaluation agenda on collaborative learning on the module. The responses were analysed using a simple thematic analysis, which focuses on ‘identifiable themes and patterns of living and/or behavior’ (Aronson, 1994, n.p.). The next section presents this analysis.

**Analysis and discussion**

Two main themes emerged from the analysis of the e-mail discussions. The first relates to an emerging community of practice (whether or not identified as such), which helped the tutors understand how they needed to change their pedagogical approach with students, particularly in their TGFs. The second theme related to how the tutors dealt with debate in the tutor forum and how to acknowledge what is ‘unsaid’.

**An emerging community of practice**

Online tutor forums have been an important part of the support system for OU ALs for two decades. Quintas & Fowle (2002) discussed their use in a then-new MBA course, ‘Managing Knowledge’, as an
emerging community of practice. This use has since evolved school-wide into a more formal mechanism for providing such support. Although communities of practice are usually defined as informal and emergent, the support mechanisms for their development can be intentional (Wenger, 1998). Online tutor forums (and indeed TGFs for students) are meant to provide places for such emergence.

As a large number of tutors for this module are familiar with the ‘communities of practice’ model they are therefore already aware of the ways that the forums can be used for discussion and collaborative learning. One tutor described how their own TGF was a moving toward this model: ‘[I]t can go beyond being a Q&A forum (where students find the info and guidance they need), to really being a two-way street of learning from each other (closer to a true CoP).’

Such collaborative learning is explicitly built into the pedagogy of the module – and at least two assignments require students to incorporate others’ perspectives in how they discuss their own views on a topic. Students are encouraged to see that they already have expertise on which they can draw to develop a deeper understanding of theories and ideas they are learning. This is a different approach than many of the experienced tutors have come across on former MBA modules, as one tutor noted:

> ‘As I am now in my 10th year of tutoring with the OU I have found that there are a number of practical differences between tutoring on [the module] and the previous Stage 1 and MBA courses.
> This relates to:
> 1. Changes in which the module material is presented,
> 2. Much higher online and interactive content and designed-in greater degree of choice and range of supported optional material,
> 3. The key role of the EBI,
> 4. The overt encouragement (with linked reward in terms of assessment) for reflective learning,
> 5. The assessment criteria which more directly promote the generic skills of building coherent evidence-based arguments which will be required in stage two of the MBA.’

Notably, each of the tutors reflected that their own teaching practice had to change due to these and other noted differences. Tutors mentioned the importance of dialogue and discussion to enhance student learning. More importantly, tutors are gaining a better understanding of their facilitative role – as one tutor put it: ‘It is okay for there to be periods for the [TGF] to be (more) quiet, to allow for it to happen. To let forum participants take the lead. To let the forum manage itself with minimal intervention is not a sign of laziness but actually can be what is desired.’ One tutor described a similar approach emerging for his facilitation of the forum: ‘My intention is now more directly to help students appreciate the range of ways in which concepts can be applied and how their relevance can be explored and evaluated when applied at different sets of circumstances. This involves asking more challenging questions and less provision of answers and suggestions.’ This echoes prior research of an OUBS undergraduate work-based learning module, where tutors distinguished this pedagogical practice as ‘hands off vs. hands on’ (Reid, et al., 2010) relating to forum facilitation often requiring a ‘hands off’, or ‘light touch’ approach to stimulate learning.

Additionally, the tutor forum provides a mechanism for reflecting on teaching practice by virtue of the sharing community that has developed. One tutor noted: ‘[N]ot only were questions answered that I had myself, fresh ideas brought in, but also questions and ideas brought up that I/we as ALs should think about.’ While some of these questions are posed by the module’s leadership, many are brought up by the ALs themselves. Through this interaction, the tutors are given space to reflect on their practice by virtue of sharing their ideas. Another tutor noted: ‘If we consider the way that most tutors interacted on predecessor courses, we were largely isolated from one another, although there was some communication from monitors, line management and the odd tutorial visit.’

**Debate and silence**

The tutor forum can be a lively place for debate, and different points of view are encouraged by the module team to stimulate learning and to empower tutors in the module development process. One tutor stated, ‘For me it is the first time I feel truly involved in shaping a (new) module, the first time ‘having a say’ and making a difference to the module as an AL’. Although all OUBS module teams include tutors, in this case
One tutor noted how a wide range of interpretations of activities and assignments caused a ‘rich dialogue and discussion’. This is certainly an important issue to review when evaluating the consistency of pedagogical approaches by tutors in the larger evaluation, but it also highlights the importance of a ‘community of practice’ or ‘collaborative learning’ setting for revealing where inconsistencies arise, particularly when modules are presented to scale and at a distance.

With an understanding that the first presentation would identify some areas needing amending in the module, the tutor forum became a place for developing a mutual understanding of what certain activities and assignments meant – not just as envisioned by the module’s writers, but also by those who were actively teaching it. One tutor explained: ‘It started with some specific questions from my students…I shared these questions and answers in the tutor forum. Others added to it, built on it. This made me stop and think about the answers I had given. Refining, tweaking them. Other ALs did the same. In the end, we had not only clarified the guidance but also our understanding and expectations from this [assignment], I believe.’

Yet as healthy as such debate is, it can become unwieldy for tutors who have many other responsibilities to students. The added time required to participate in the debate can become challenging, as one participant noted, ‘especially when discussions go off tangent, which can lead to a number of unwanted results.’ Therefore, there is a need to walk a fine line when developing a collaboratively learning community of practice, not only to allow for debate and Rorty’s ‘abnormal discourse’ but to also manage the discussion in a way that allows agreement to emerge. One tutor stated that such managing is far easier in student forums as it is easier to ‘instill discipline’ (which brings up other matters related to hands off vs. hands on approaches and the role of the tutor as ‘expert’, and which we plan to investigate in the larger study), but that the tutor agrees ‘that we should not (and must not) stifle good debate’.

A final sub-theme emerging from the data is the issue of ‘silence’ and how the tutors we spoke to noticed that at times there were only a few ‘loud voices’ in the tutor forum, but that the issues were probably relevant to those who read posts but did not participate – what Lave and Wenger (1991) might call ‘legitimate peripheral participation’. Additionally, when tutors read other tutors’ posts, they identified potential issues not yet raised on their own forums and identified potential areas of silence. The tutors realised that these same questions were occurring but unstated in their own forums and therefore found ways to address these silent questions.

Contribution, limitations and next steps

As this paper reports on the initial findings of a larger and continuing evaluation, the generalisability of the results of this very small scale study can only serve as an outline map of issues to investigate. However, even among tutors who have a more substantial role in the module’s development and implementation recognise the value of collaborative learning for both themselves and their students. This paper provides an important contribution in thinking about how dialogue plays a crucial role in how pedagogical innovation takes place. Distance learning universities, such as the OU, which offer programmes at scale, face the challenge of consistency when implementing innovative pedagogies, and dialogues within emergent communities of practice allow members to discuss, debate and challenge perceptions and develop more robust teaching practices.

There are a number of interesting points that we plan to investigate further in our fuller evaluation of tutor perspectives of the new MBA pedagogical model at OUBS. Some themes echo some of the findings of earlier studies of the Undergraduate Programme, which has already undergone many of these changes, such as the issue of how ‘hands off’ a tutor should be to facilitate dialogue in the TGFs. Another is the emerging community of practice among tutors in their own forum, which has empowered tutors to find new and innovative ways to approach their teaching practice and to find common ground. We also want to explore how debate and silence, in the context of a community of practice, help to stimulate the discourse in communities of practice and encourage organisational learning.
References


Sport Management and Education: some lessons from experience

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Founded in 1984, Grenoble Ecole de Management (GEM) was the first French business school to propose curricula based on technology management. The School is now widely recognized for this expertise and is ranked at a very high level at both in national and international levels.

One of the most recent departments of this school is the Institute for Sports and Management. Situated at the crossroads of the sports and business worlds, this Institute examines issues common to both worlds and recommends projects and areas for future research to bring them closer together. It also offers innovative educational programs using techniques from sports and business.

3 years ago, a very innovative e-learning program specially designed for top level athletes (to accommodate their busy schedules) was launched. Because elite athletes deserve an elite degree, the choice has been made to base this program on the most famous program of GEM: “ESC program” (“programme Grande Ecole” in French). Our hypotheses was that our students who had achieved such a level of performance in a discipline, would bring in another environment, the behaviors and values built up in sport.

Interested athletes belonging to the short list established by the French Ministry of Sports (Sportifs de haut niveau) and having a sufficient academic background can follow the selection process.

This “crème de la crème” program is a blended one:

- A "Face to Face" Seminar every year, aims to introduce both courses and technologies and hosts some team building activities which boost students interactions once they are on their own.
- A very flexible but demanding distance learning part which uses the most recent e-learning methodologies and tools in the perspective of reaching a high level of flexibility. Knowing our students’ constraints this aspect is key for them. High quality is actually a must, you cannot run an ordinary program in front of students who everyday struggle for perfection in their activity. E-learning programs are nowadays rather common in management education but not with this kind of flexibility to give them the opportunity to follow the business school graduate program without hindrances to their sport career.

For these “crème de la crème” students, we make important efforts to get the “crème de la crème” faculty. Selected professors are volunteers, motivated by the challenges this specific public imply, and they are trained to work with the latest technologies.

First students were welcomed in 2008 and will be graduated in 2012. 2 years after the program kick off we are able to draw some interesting lessons out of the experience. We have made a comparative study of the learning style of these students and our other students. We will present our first results and how we plan to use these first results to improve all our Management programs. Many links are today imagined between the sport and management worlds. Our experience give us inputs to feed the collective thinking on this subject, also by touching the sense of collective and individual effort on strive for excellence. The relationship between sport education and management education looks as a promising area to explore further.
Keynote address 2: Peter Jarvis: Teaching Whole People Through Distance Education

Peter Jarvis is a former head of the Department of Educational Studies and is a former Adjunct Professor, Dept. of Adult Education, University of Georgia, USA. He has written and edited well over 30 books and 200 papers and chapters in books on adult education and learning, continuing professional education, nurse education, primary school education, distance education, third age education. He has also been involved in writing a number of research reports ranging from curriculum evaluation in nursing to older people mentoring in the workplace. He has been grant holder for a number of research projects. He serves on editorial boards of a number of journals in different parts of the world including Adult Education Quarterly in the USA, Comparative Education, the Editorial Board of which he chaired for five years and he is an assessor for Nurse Education Today. He is the founding editor of The International Journal of Lifelong Education, which he has edited for nearly thirty years. At EDINEB, his keynote will specifically address “Track 4: Crème de la Crème Pedagogies and Educational Concepts: Learning to do”

He holds honorary visiting professorships in City University (UK), Pecs University (Hungary)) and Tianjin Radio and Television University Chibna). He is also a Special Professor at the University of Nottingham. He has received a variety of academic honours, such as: being President of the British Association of International and Comparative Education (BAICE) in the year 1999-2000; the Cyril O Houle World Award for Adult Education Literature from the American Association of Adult and Continuing Education; on two occasions; the Comenius Award - International ESVA Foundation (Outstanding Adult Educator in Europe - First Holder); he was also the first non-North American to be elected to the International Hall of Fame of Adult and Continuing Education in USA, which is located in University of Oklahoma. He was also awarded a Japan Society for the Promotion of Science research fellowship at the University of Tokyo. He was Noted Scholar at the University of British Columbia, and has been a Visiting Professor at the universities of Ljubljana, Pedagogical University of Tallinn, Tennessee, Alaska at Anchorage and Maryland. He is an honorary member of a number of Professional Associations in different parts of the world. He is also a frequent speaker on all aspects of adult education, distance learning and lifelong learning throughout the world.
An explorative study of transformation in teaching and learning in higher education; to develop a local framework for IDRAC Lyon (France)

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Abstract: How universal is blended and online learning (BOL) in higher education? And, more precisely, is the online-learning platform being used effectively at different institutions of higher education (HEIs)? The context for this enquiry is the development of web 2.0 tools in the education sector, at a time when many HEIs are looking for cost-effective ways to modernise the delivery of academic programmes to an increasingly international cohort of students. This study sets out to identify the key factors that will facilitate the adoption of BOL in a small, private business school in France (Idrac Lyon), where the intake is mainly francophone but with a growing number of non-francophone students. Using in-depth interviews, the study explores the steps that were taken by three British HEIs to deliver courses using online technologies. The findings of the investigation will be applied to draw up a local framework for the transition to online teaching and learning at Idrac, and thus serve as a document for discussion.

Introduction

It is widely acknowledged that “the online lifestyle of young people going into higher education was inescapable” (Melville et al., 2009: 5) and that the transition to online teaching and learning has created new challenges, as the roles and expectations of both staff and students continue to evolve. With the introduction of Web 2.0, the social web, the traditional classroom of one speaker and many listeners is gradually being transformed to incorporate various online resources and new teaching practices. The paradigm shift to a more student-centred approach using digital technology is often referred to as blended and online learning (or BOL) to describe the combination of two different methods; face-to-face teaching in a classroom and learning where students interact with computers (Ellis, Steed and Applebee, 2006; Graham, 2006).

A sizeable body of literature chronicles the various approaches that have been taken by higher education institutions (or HEIs) worldwide to implement technology-enhanced education. Certain institutions offer 100% online learning and others have developed a partial or blended approach. Much current literature focuses on the HEIs that have championed BOL, describing the steps taken to replace the traditional teacher-centred classroom structure by a new student-centred approach.

This paper takes inspiration from HEIs in Britain, supporting the view that the UK is a leader in e-learning in Europe (Patterson, 2009; Hamouda et al., 2010). Substantial investment enabled many British HEIs to establish a centrally supported e-learning service in the early 2000s; success stories encouraged HEIs to continue using online learning (Donnelly et al., 2006). Literature provides abundant advice on how to make the transition to BOL, citing examples from large, public-funded institutions often located in English-speaking communities. Although research has been undertaken on “conventional universities going online” in France (Patel and Patel, 2006: 27), there is a gap in literature that addresses the issues facing small, privately-funded, non-English speaking institutions wishing to make the transition. To this end, this paper sets out to begin bridging the gap.

Aim

The aim of this study is two-fold; firstly, to critically review the literature available in the public domain in order to assess current trends in BOL in HEIs - and secondly, to develop an innovative approach for facilitating the transformation to a VLE at IDRAC Lyon, one of the seven business schools in the IDRAC network (France). The focus is on enhancing the student learning experience, rather than adopting new technology as the key driver of change. This paper thus presents an analysis of the changed environment for teachers and learners in an undergraduate context, based on constructivist principles that have moved from a predominately campus-based delivery to an online approach.
Methodology
The methodology is structured in two phases, a secondary research phase followed by a field research phase. The unit of analysis for the study will be the ‘institution’. The secondary phase examines a number of macro-literature aspects; the higher education environment, technological considerations from a cross-cultural perspective, management teaching settings and so on. The institutional illustrations are not produced with the intention of generalising across different national contexts. This is indeed a weakness of much international work. When comparing countries, it is recognised that there can be as much difference within countries as between them.

For the field research, a number of higher education institutions are identified and data collected from them, by means of in-depth interviews with teaching staff and managers. The data gathered provide a snapshot of how different institutions integrated technology-enhanced learning. The interviews took place between July and December 2010.

The process of deciding how to identify potential informants for interviews is a critical part of research design, determining how the sample is selected. As the studies of Milroy and Milroy (1992) have shown, people respond more positively and in a natural manner when they are part of a social or professional network. Starting from the higher education networks of IDRAC Lyon, a list of professional contacts were approached to take part in the study; 5 in France and 5 in England. These people then nominated further contacts to participate in the interviews. This process generated 1 HEI in France and 3 in England. In view of the imbalance in national setting, the French HEI was used for the pilot test. The British HEIS are situated in the north-west of England, the French HEI in south-east France. Anonymity was requested.

Given the discussion nature of the present paper, the intention is to provide a set of ‘good practice’ guidelines for implementing BOL at IDRAC Lyon, drawing on the literature and the data gathered. It is not the intention to provide a universal modus operandi for French institutions who are currently considering the move. The recommendations (available upon request) are designed to aid decision-making in a specific context at IDRAC Lyon, and thus include advice on the type of delivery methods to adopt, new teaching and learning practices, strategic considerations etc.

Existing Studies
The Leitch review, unveiled in the UK in December 2006, describes how online learning can play a key role in the drive towards increasing skills levels. This notion is based on the belief that online learning is an effective way to provide an individualised learning experience, while offering opportunities for collaborative learning through discussion forums and instant messaging technologies. In addition, “e-learning also provides a relatively anonymous learning environment, so there is less pressure to perform well in front of colleagues as might sometimes be the case in classroom-style training” (Bell, 2007: 8). The work of Vygotsky (1978) promotes the use of social constructivist learning theories, emphasizing that much learning is acquired via a collaborative nature when the individual is placed at the centre of the learning experience.

New interactive media enable learners to co-construct knowledge through asynchronous discussion boards, chat rooms, web conferencing, online social networks, wikis, etc (Hwang and Francesco, 2010). Digital technology provides the potential for establishing communities of inquiry and as a result, McCombs and Vakili (2005) believe that online learning can empower students to become more independent and to take control of their learning. Garrison and Anderson (2003:106) state that this technology “has moved into the mainstream of higher education and is beginning to be recognized as a strategic asset”. Furthermore, European educational directives confirm this to be the case. The emphasis is on providing people with the right blend of high-level skills which will enable them to not only to be able to operate the technology, but also to be able to recognize and comprehend what it means to live in a web-based, networked society (Punie, 2007).

In recent decades, the business world has undergone revolutionary transformation, driven by technological change, globalisation and evolution in consumer preferences. Today’s young business graduates are expected to possess numerous professional and technological competencies to handle the challenges created by this transformation. Business schools are facing “serious criticism” on the grounds of ineffectiveness in responding to such change (Kaplan et al., 2010: 50). The onus is on tutors to impart the skills which employers require in the digital age - problem solving, analytical and strategic thinking, integrating information - in order to prepare students for an increasingly Internet-dependent workplace.
Institutions which fail to embrace technological change could find themselves losing students to those institutions which can deliver BOL and thus equip students with the digital skills to succeed in the workplace. There are also wider benefits of using BOL - like decreasing the time spent in a classroom (more flexibility), as well as environmental concerns (reducing CO2 pollution caused by the daily commute) and less paper (sustainable development). However, studies have shown that while the cost of printing documents may decrease, institutions must be prepared for increased expenditure related to the design and development of online courses, and also the extra time it takes for staff to teach and support students online (Bennett et al., 1999; Mutula et al., 2006). In actual fact, certain institutions such as Harvard and the University of Minnesota charge more for online courses due to the amount of time that goes into providing online support (Krakovsky, 2010).

At the time of writing, many institutions sense that the world is passing through a technological revolution, but they lack convenient, reliable information to guide decisions (Halal, 2008). There are other grounds for remaining reluctant to invest in new teaching and learning technology. Reasons include an impersonal delivery method or overly-automated assessment process, plus concerns about plagiarism and isolation of learners. The industry has responded well to such criticisms by providing online materials that can be customised, incorporating each learner’s progress, detailed tutor feedback and tracking ‘attendance’. Despite the reservations felt by some institutions, online training and education has grown rapidly in the last 5 years, especially in the English-speaking world, fuelled by a greater demand for personal development along with learning and lifestyle changes within society. The net outcome is that the more traditional approach is gradually evolving towards online methods which now cater to an ever-growing diversity of subject matter.

How applicable are these notions of technology-enhanced education to non Anglo-Saxon communities? Literature suggests that there may be a cultural gap in student perceptions of online collaborative learning. The way in which students engage in learning is thought to be influenced by personal experiences within particular cultural contexts (Zhu et al., 2008); student reactions to the social-constructivist learning environments differ depending on learners’ prior experiences, but also according to the distinct communication norms across different cultures (Chang and Lim, 2002).

It is likely that international students feel less inhibited when using technology-enhanced learning compared to face-to-face situations. Online support networks can help international students to overcome “various social or psychological stresses” (Ye, 2006: 5). BOL allows students to share and learn from each other’s experiences in authentic tasks; it enables exposure to alternative viewpoints, constructive criticism and reflection within the student community (Lee and Lee, 2004). This view is supported by the work of Zhu et al. (2009) who found that a social-constructivist learning environment promotes collaborative and constructive learning, interaction among peers and problem-solving activities, i.e. skills which are needed for today’s world of work.

The points raised above draw attention to some of the fundamental issues that need to be addressed during the initial planning phase when considering the transition to BOL; particularly the time, effort and financial investment that is required to design a VLE. Equally critical is the extent to which a VLE needs to be adapted to the local context, i.e. the linguistic and cultural considerations. But undoubtedly, the key factor is the design of a communication strategy to give stakeholders an insight into the rationale and strategy for adopting BOL. They need to understand the benefits of using a VLE; especially how BOL contributes to establishing and maintaining the competitive advantage of the institution.

The transition to BOL: factors for IDRAC Lyon to consider

IDRAC is committed to preparing students to be operational in the workplace. For this reason, there is an urgency to encourage the use of BOL by staff and students. Communication is crucial. Individuals need to be informed about the technicalities of an e-learning platform and how it will be implemented (the ‘technology integration plan’), explaining how the platform differs from the current provision and the broad benefits of using the new technology.

So far, IDRAC has invested in two pieces of software; firstly, an e-campus open-source platform (http://ecampus.idraclyon.net) which is used primarily for posting information and course documents as it offers few collaborative tools; and secondly, Spiral, an e-learning platform developed by a local Lyon university which offers a significant range of useful collaborative tools but whose existence is ignored by the majority of teaching staff. As a first step towards technology-enhanced learning at IDRAC, BOL would
appear to be more ‘culturally compatible’ with the current provision than pure e-learning. The work of Schweizer et al. (2003: 211) found that “learners in the blended learning condition who worked together face-to-face led a much more coherent discourse than learners in the pure e-learning conditions”.

At the time of writing, there is no clear strategy in place to guide staff and students to work with either the e-campus or Spiral. This is an issue that needs to be addressed before attempting to launch a BOL initiative. It may necessitate a change in the culture of the institution. A useful approach put forward by Inglis, Ling & Joosten (2002:119) would be to address the skills gap and therefore “begin by making an assessment of the existing skills of staff against the range of new skills that you know will be needed”. This can be carried out by online questionnaire to ascertain how many staff require basic training in using a VLE before approaching more diverse tools such as podcasts or wikis, etc. Once this has been determined, the question still remains of how best to initiate staff to the new technology without running the risk of further alienating them, as new technology may be perceived as daunting to many.

Literature suggests that a successful BOL initiative is highly dependent upon a number of underlying factors, including choice of e-learning platform, initial and ongoing financial investment, support from ICT staff, resources for staff development and learning design, commitment from senior management and so on; it is important that both staff and students have the inclination and capacity to use the technology (Inglis, Ling & Joosten, 2002). The choice of platform depends on the needs of the institution and the users (class size, features, budget, etc). It has to be relevant and realistic, in other words fit-for-purpose. Literature recommends favouring platforms that offer easy access to a wide range of communication and collaboration tools, as well as ease of use, i.e. single logins for accessing online courses and all other institution related information (Weller, 2002). Merrill (2002: 44-45) puts forward 5 further factors that need to be in place for successful BOL:

- learners are engaged in solving real-world problems,
- existing knowledge is activated as a foundation for new knowledge,
- new knowledge is demonstrated to the learner,
- new knowledge is applied by the learner,
- new knowledge is integrated into the learner’s world.

There is no ‘quick fix’ approach. Despite careful planning, problems can still arise due to failure to undertake a cost-benefit analysis, not implementing change management strategy, not compensating for the lack of human contact, not developing a contingency plan etc. An additional issue to deal with is the change in pedagogy.

Studies by Palloff & Pratt (2001: 23) found that “staff cannot be expected to know intuitively how to design and deliver an effective online course”. Equally, students cannot be expected to know how to use such technologies without first being shown (Oliver and Dempster, 2003). The users (tutors, students and administrators) need to be made fully aware of the key pedagogical guiding principles of BOL; and be given the opportunity to develop the necessary skills for using a VLE. Tutors require sufficient training to know how to create, monitor and assess online courses. They also need to know how the technology can enhance the quality of the learning experience and the learning outcomes,

Many of today’s tutors are unfamiliar with social constructivist principles. From a pedagogical perspective, social constructivism holds that “the most important features of humans as a species are that they have developed language…; that they fashion their own tools…; and that they can transmit the discoveries and inventions of one generation to the next” (Case, 1996: 80). The implication of this view is that tutors need to be willing to relinquish some of their control in the teaching process in order to allow for student empowerment as well as the creation of learning communities (Palloff & Pratt, 1999).

In the context of IDRAC, tutors will need to be trained in social constructivist teaching methods, in order to appreciate the benefits of using such an approach - in preference to their habitual teaching style based on an authoritative relationship where the teacher dispenses knowledge to the students. Change seems relatively slow in the French cultural context; a national debate was held in 2006 to discuss the future of higher education in France. The focus was on reducing student drop-out rates, curriculum choice, improving professionalism, sustainable development, creating business partnerships and the evolution of higher education. Technology-enhanced education was not on the agenda. Five years later, professional bodies such as INRP are currently advocating the integration of social media in the curriculum.

A study by MENESR (2006) found that many French HEIs (including IDRAC Lyon) currently lack the pedagogical approach and requisite skills for using a technology-enhanced learning. The following
examples illustrate the gap that is emerging between France and other countries. In the case of Central Queensland University in Australia and Edinburgh Napier University in Scotland, staff are encouraged to participate in a short online course lasting several days, to experience learning from a student perspective; this enables staff to understand both the difficulties and opportunities of learning online (Mainka, 2007). At the State University of New York, the entire teaching body is trained to “understand the nature of online learning and how to transform what they do in the classroom to best exploit the affordances and mitigate the constraints of Internet-based teaching and learning” (Duffy, 2004: 349). In the UK, the DEBUT study (Digital Experience Building in University Teaching) set out to develop an approach to staff development in relation to BOL, and found that “the most popular tools were PP, digital video, Flickr, Netvibes and Refworks because they were immediately useful to participants’ professional practice and built upon what they already knew” (Westerman & Barry, 2009: 128).

These illustrations point to the need for a situational, hands-on approach to staff development in relation to BOL. New skills are required to develop innovative methods. This can take considerable time to set up and deliver; and thus represent a considerable cost to the institution (Smyth et al., 2007). Moreover, local factors can accelerate or hinder the implementation of BOL, such as the drive for corporate change, sources of national/ regional funding for training, and so on.

Managers need to recognise the time required for academic staff to become familiar with a new way of teaching; tutors need to redesign the course content, the delivery of materials and how they will support and assess students online. A motivational incentive would be to offer extra (paid) time for staff to develop courses using BOL, to reduce teaching loads to make up for the time involved in providing online student support or even to give financial rewards for staff to be trailblazers - acting as mentors to encourage others to use BOL (Howard, 2004). This is especially true in the case of IDRAC where the majority of the teaching staff is part-time. It can be anticipated that part-timers will question this issue and demand a coherent strategy concerning compensation for their time.

Equally important, as mentioned earlier, the students need to be trained too; not only in how to use the software but also in how to learn in an online environment (Howard, 2004). Research by Kellogg and Smith (2009) has shown that some “students find these particular communication technologies to be undesirable” (p. 441). Even though today’s students belong to the generation of so-called digital natives and are therefore familiar with the generic online interface of web browsers (Weller, 2002), it does not follow that they know how to learn online. Therefore the technology integration plan at IDRAC must take into consideration the considerable time and effort needed to enable the students to adapt to BOL.

A further requirement, probably the most important, is to ensure that the institution’s infrastructure is able to handle the widespread use of BOL. Inevitably, technical problems will arise and therefore users need the guarantee that problems will be addressed promptly - otherwise the BOL initiative cannot succeed. This is a further challenge for IDRAC since the current ICT support is technically dependent on outside providers and it is currently unclear who will be responsible for dealing with technical issues related to BOL.

Lastly, administrative services and library resources also play a key role in successfully delivering BOL and they therefore need to be considered as an integral part of the transformation process (Mainka & Benzies, 2006). This underscores the importance of establishing a clear and comprehensive strategy before embarking on a BOL project. Auditing the current context seems to be the best place to start, prior to embarking on the design of a technology integration plan.

**The current climate at IDRAC Lyon**

What, therefore, is the most effective way for IDRAC to implement BOL? Without first-mover advantage, IDRAC can reflect upon on the transitions that have taken place at other institutions, and then design a VLE to meet the specific needs of its own students and staff.

IDRAC Lyon currently offers 10 different educational programmes to a student population of over 2,000 – about 10% of whom are foreign students who take courses delivered in English. Student satisfaction is good and therefore retention is high. These students are the typical digital natives, yet it seems that most of them are not as computer savvy as the term would imply and, as The Economist Technology Quarterly suggests, “only have a superficial familiarity with the digital tools that they use” (2010: 10). Most students at IDRAC are heavy users of the popular social network sites and commercial search engines; they seldom use the school facilities (e-campus, administrative intranet, institutional blog and institutional website) for information retrieval or communication purposes … although the same could be said for some staff.
For many years, France has lagged behind English-speaking countries in the adoption and use of Internet technology (ILT, 2009). Today, the French higher education system is still very much offline but efforts are underway to modernize learning techniques (Péresse, 2008). So far, there has been a certain amount of resistance from teachers - often due to insufficient resources, training and time. Moreover, private institutions such as IDRAC do not qualify for any government funding, which further limits the investment potential for BOL.

At the time of writing, there is no consensus on how IDRAC can implement BOL. This can be partially explained by a combination of factors: lack of a strategy to manage knowledge, low technological awareness and diverse cultural barriers (namely resistance to innovative teaching methods, especially e-learning). The situation is further complicated by a bureaucratic management system and a complex decision-making process; both of which hamper the introduction of technology-enhanced education. Another issue to take into account is the human factor; readiness to adopt change (again, culturally-sensitive) especially when it involves the Internet which some French people perceive as US-dominated technology and therefore exhibit a certain amount suspicion towards it (Kaser, 2005). This aspect may also contribute to staff resistance to recognising the educational potential of Internet-based learning.

Another major issue to address at IDRAC is the lack of policy for SD (staff development). Whereas Anglo-Saxon HEIs have been able to successfully implement online education using government grants and bona fide SD units (Duffy, 2004), IDRAC has no such support system and as a result, the implementation of BOL will face an extra challenge.

As a concluding remark, it should also be noted that IDRAC has only thirty full-time teaching staff, few of whom could be considered as ‘trailblazers’ as far as BOL is concerned. The other 150 or so tutors are part-time and therefore it would be expected that encouraging them to participate in a new educational venture without any clear strategy will create yet another hurdle.

As stated at the onset, the purpose of this study is to share a tentative framework for implementing BOL at IDRAC Lyon, by identifying the challenges facing the institution within a specific context and by making suggestions (recommendations) based on interviews and observation of good practice at four HEIs (3 in Britain plus the pilot HEI in France). The recommendations reflect the various techniques which have proved successful in assisting other institutions to make the transformation to blended and online learning. The HEIs requested to remain nameless.

Findings and observations

An analysis of the interview data from the HEIs suggested that the implementation of technology-enhanced learning does not automatically produce a fully-functioning VLE. This is one of the key findings of the interviews. A second observation was that while the three institutions share a common approach to technology-enhanced learning, there was some disparity too. These findings (available as a table upon request) support the notions discussed earlier.

The responses illustrate a range of experiences that yielded a broadly positive transition to blended and online learning from the perspective of teaching staff and students. An analysis of the data shows that all 3 institutions set up their VLE internally although funding came from different sources in each case. When the VLEs were launched a decade ago, there were mixed reactions from the staff ranging from enthusiasm (in the HEI where e-learning is 100% online) to suspicion (in the 2 HEIs where learning is blended). As far as students were concerned, some perceived online course materials as an alternative to attending lectures. There were also some issues with setting the “tone” for communicating online with tutors; it was necessary to clarify the distinction between social and academic information.

Overwhelmingly, the respondents noted that introducing a VLE has improved the learning experience with greater flows of information between tutors and students, but there remain certain reservations especially the importance for 24/7 technical support.

During the course of the interviews, three specific issues were raised regarding the use of the technology, the need to emphasize the acquisition of other (basic) skills, and prerequisites for making the transition to technology-enhanced learning. These points are discussed in turn.

Respondents across the sample indicated that about two-thirds of staff actively use the VLE to support teaching. Many tutors began using the VLE with great enthusiasm then realised that they needed to be much more available for the students who follow classes 100% online; the new technology was thereafter perceived by some tutors as ‘very time consuming’ in terms of monitoring students and providing feedback. Respondents also remarked that the VLE is under-utilised by staff for communication and
collaborative activities which - it is widely acknowledged - can provide opportunities for enhancing the learning experience. In the international programmes, tutors experienced difficulties with getting all the students together online at the same time for a group discussion (due partly to time differences but also technical problems). This seems to suggest that the institution may need to rethink its approach to online learning in order to develop BOL programmes which are better adapted to the needs and the capacity of the institution.

The general feeling was that the use of technology in HEIs should not undermine or be detrimental to the acquisition of basic skills, in particular reading, writing, communication and analysis. The use of BOL needs to be kept in perspective, as a tool to enhance learning. Staff felt that the role of the HEI is to deliver more than mere academic facts; students need to develop their interpersonal skills. For this reason, tutors need to make every effort to ensure that the students are able to use the technology intelligently and critically in order to succeed in today’s workplace. Teaching staff maintain that BOL is not to be considered as a finite entity; it needs to be carefully integrated into the culture of each institution. Above all, technology-enhanced learning needs to be approached with caution, in order to not lose sight of the basic fundamentals of higher education.

In terms of preparing for the transition to BOL, respondents reiterated the importance of providing teachers with sufficient training to use the technology reflectively and to be able to pass those skills on to the students. One of the problems of HE today seems to be that many staff belong to the generation of so-called Digital Immigrants - struggling to incorporate new technologies into their own workplace and therefore not in a position to be able to offer students what they need in terms of reflective digital know-how.

Discussing the limitations of using BOL, one tutor (who wishes to remain anonymous) put forward that “everything is possible online but it is fast becoming a question of ‘the more facilities added, the more the likelihood of things going wrong’. With the best will in the world, problems cannot be anticipated. In a student group, there’s always a problem to solve ... PC access, logging-on, broadband issue, forgotten passwords and so on. The tutor becomes the focal point for all student questions (academic or technical) ... this is one of the biggest drawbacks for e-learning. Plus, this year we didn’t have enough online students to offer the e-learning course at all. Fixing the technical problems is very time-consuming even when there is a dedicated team for technical support because the students turn to the tutor first, only contacting IT support staff when the tutor cannot solve the problem. The online course has to be planned and delivered at the speed of the lowest-common denominator (many students are not as techno literate as they would like to appear), to reduce the risk of them getting left behind.”

Lessons to be learnt from the British HE institutions
This paper has a modest ambition to solicit views and feedback. The analysis of the interview data suggests that the adoption of online learning initiatives is less widespread than the literature leads us to believe. The key reasons given for this include primarily poor management of resources (particularly human resources) and also an oversight of the fundamentals of technology-enhanced education, in other words lack of preparation and training for staff and students to operate in the current online climate.

It would seem that many campus-based students still want to be taught face-to-face using traditional teaching methods, even though (paradoxically) they are heavy Internet users. Students enjoy using interactive tools for sharing information with others and they expect Internet access on campus 24/7 - but given the choice, many appear to prefer more traditional methods to 100% online learning.

We acknowledge the progress and enormous efforts that have been made in different HEIs over the last decade to implement technology-enhanced learning. Taken against the theoretical background, we conclude that a different approach is needed at IDRAC to reflect the local context. To this end, we propose a set of good practice guidelines to deliver an effective online experience, and thus provide added value for students by enhancing and extending the learning experience at IDRAC.

From an educational and ethical perspective, this leads us to the question of how best to use new technology to prepare students at IDRAC for future employment. This, in itself, merits a whole new investigation.

Limitations, implications and further research
The study provides an insight into making the transition to BOL, highlighting the potential impact on staff and students in different British settings. In order to implement a new teaching and learning approach in another cultural setting (i.e. France), many factors need to be considered such as language and traditional
values. It calls into question the issue of national difference and technology adoption beyond borders. For cultural essentialists, this would be the main limitation of the study.

In future studies, other variables such as student prior knowledge and the influence of specific settings on student perceptions and motivations can be examined. This also implies that the current findings can only be generalised in a cautious way. This is the second weakness of the investigation. Future studies could involve students from other study domains and other ages.

Lastly, only the views of teaching staff and managers were solicited in the interviews. For a balanced opinion, it would be constructive to involve students by asking current students about their experiences of BOL, and alumni about the role and opportunity that student-centred learning offered in terms of employability. This is an area we intend to explore next year.

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Changing teacher beliefs and intentions towards integrating ICT in higher education: can training make a difference?

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Abstract: Teachers’ beliefs towards learning, teaching and ICT have a strong impact on how learning opportunities are designed and implemented. Mishra and Koehler (2005) distinguish three main knowledge areas (technological, pedagogical and content knowledge) that teachers need to master in order to effectively teach. Research has shown that providing effective opportunities for teachers to develop skills and competence in ICT tools and usage and how to effectively redesign their education by incorporating ICT are not straightforward.

In this study we examined a multidisciplinary programme designed to engage business teachers with the use and understanding of ICT as it related to their practice. 74 teachers from eight higher educational institutes in the Netherlands participated in a module specifically addressing how teachers can effectively apply the TPACK model to design their teaching. Data were gathered by using a mixed method approach using pre-post testing and semi-structured interviews.

Introduction

In the last ten years three major developments in business education have substantially influenced higher education: (1) increasing diversity of student population; (2) the need to shift to student-centred learning; and (3) the possibilities of Information Communication Technology (ICT) to enhance teaching and learning. First, the type of students entering business education has significantly changed in the last ten years. Due to increased mobility of students the student population has more diverse cultural (Eringa & Huei-Ling, 2009; Rienties, Grohnert, Kommers, Niemantsverdriet, & Nijhuis, 2011), and socio-cultural background, the previous education does not provide the expected knowledge (Brouwer, Ekimova, Jasinska, Van Gastel, & Virgailaita-Meckauskaite, 2009; Tempelaar et al., 2011), and there can be large differences in the age of students. As a consequence, teachers need to be able to adapt and adjust their teaching to address a wider diversity of learners’ needs (Jindal-Snape, 2010; Tempelaar, et al., 2011), and at the same time educate more students in less time and in a cost-effective manner.

A second important development that contradicts the focus on cost-efficiency in business education is that research and evidence in higher education has shown that traditional teacher-centred forms of education such as lectures do not provide an optimal learning experience for students (Eringa & Huei-Ling, 2009; Rienties, Grohnert, et al., 2011; Tempelaar, Rienties, & Giesbers, 2009). In the past, the transfer of teacher’s knowledge to students was considered as a primary method for learning (Struyven, Dochy, & Janssens, 2011). However, this traditional learning method is not efficient for teaching complex tasks and problems inherent in society. Recent research showed that most business schools deliver ill-equipped business graduates, who have a substantial body of theoretical knowledge but a limited amount of transferable skills and lack on practical management experience (Arts, Gijselaers, & Boshuizen, 2006; Gerken, Rienties, Giesbers, & Könings, 2011; Pence & Wulf, 2009). To enhance employability of business graduates, an active approach to learning in business education has been suggested, whereby a teacher-centred approach is replaced by a student-centred constructivist approach (Pence & Wulf, 2009). In constructivist approaches to learning, the role of the teacher changes from a product-oriented role (content knowledge transfer) to a process-oriented role (facilitate the development of students’ knowledge building).

A third important development in higher education is the increased possibilities of ICT to provide a powerful learning experience for learners (Brouwer, et al., 2009; Chen & Jang, 2010; Rienties, Tempelaar, Van den Bossche, Gijselaers, & Segers, 2009; Tempelaar, et al., 2009). For example, ICT tools like blogs, discussion forums, Wikis, web-videoconferencing or virtual worlds are available to everyone who wishes to use them. Research has highlighted that ICT tools can provide a rich and valuable learning experience for business students to acquire knowledge and transferable skills (Giesbers, Rienties,
In addition, modules supported with adaptive and flexible ICT can repair knowledge gaps in the expected prior knowledge for business students (Tempelaar, et al., 2009; Tempelaar, et al., 2011).

Designing a student-centred, ICT integrated learning environment would meet these above mentioned developments. However, many innovations in higher education and ICT in particular have not delivered the fundamental changes in higher education that many teachers and researchers hoped for (Mishra & Koehler, 2005; Resta & Laferrière, 2007; Rienties et al., 2011). Recent research has highlighted that the application of ICT in education does not necessarily lead to improved learning experiences for students or enhanced learning processes, study performance or retention (Giesbers, et al., 2009; Valcke & Martens, 2006). This is attributed to a lack of organisational embedding of innovation and ICT in particular (Resta & Laferrière, 2007; Rienties, Kaper, et al., 2011), a lack of understanding of the essential parameters for effective teaching with ICT (Mishra & Koehler, 2005; Rienties, Kaper, et al., 2011; Valcke & Martens, 2006), and finally a lack of appropriate teachers training to effectively design and implement powerful learning and teaching experiences for students (Lawless & Pellegrino, 2007; Löfström & Nevgi, 2008).

It is necessary to provide adequate training and support for teachers in order to to raise the awareness of the complex interplay between technology, pedagogy and content (Lawless & Pellegrino, 2007; Löfström & Nevgi, 2008; Rienties & Townsend, 2011). In particular it is important that training provided to teachers is embedded into their daily practice (Lawless & Pellegrino, 2007; Löfström & Nevgi, 2008). Research has shown that providing effective training opportunities for teachers to learn how to effectively redesign their education by incorporating ICT is not straightforward (Lawless & Pellegrino, 2007). Therefore, by using principles of Design-based Research (DBR) in this paper we will investigate the impacts of an online teacher training program called MARCH\textsubscript{ET}. The focus of the training programme was on developing teachers’ skills to redesign their teaching practice by successfully implementing ICT into their education. In this paper, we will address teachers satisfaction with the overall design of the MARCH\textsubscript{ET} modules and whether teacher’s beliefs and intentions to use ICT into their education have changed.

**Designing a powerful professional development learning environment: MARCH\textsubscript{ET}**

The theoretical framework that we used to design the professional development programme MARCH\textsubscript{ET} is based on the technological pedagogical content knowledge model (TPACK) (Koehler & Mishra, 2010; Mishra & Koehler, 2005). Mishra and Koehler (2005) developed TPACK for teachers to effectively design, integrate and implement content, technology and pedagogy into their teaching practice. The model is based upon the work of Shulman (1986) who introduced the concept of PCK (pedagogical content knowledge). Teachers’ beliefs have a strong impact on the design and implementation of education. Furthermore, the teacher’s intention to innovate education has a strong impact on the teacher’s design and implementation of education in the next semesters. In the last couple of years, the TPACK model has been increasingly and successfully used by teachers to integrate ICT into educational practice (Koehler & Mishra, 2010; Rienties & Townsend, 2011).

In the TPACK model, Mishra and Koehler (2005) distinguish three main knowledge areas (technological knowledge, pedagogical knowledge, content knowledge) that teachers need to master in order to develop and implement a powerful learning experience. In practice technological knowledge is often seen as independent from content and pedagogical knowledge (Mishra & Koehler, 2005; Rienties, Kaper, et al., 2011). For example, if a teacher decides to use a wiki to discuss effective marketing strategies in his marketing module without incorporating the wiki into the module design (e.g. having a task were students have to search for effective marketing strategies and report this in the wiki), the content (e.g. discussing marketing strategies in class) and the pedagogy (e.g. using a collaborative learning approach rather than using a traditional lecture-based approach), most likely the students will not actively use the wiki. Furthermore, in practice content knowledge often determines the use of pedagogical knowledge and technological knowledge (Mishra & Koehler, 2005; Rienties & Townsend, 2011), rather than adjusting

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\[1\] MARCH\textsubscript{ET} stands for Make Relevant Choices in Educational Technology. MARCH\textsubscript{ET} delivered online professional development program for teachers in an innovative but authentic manner across eight higher education institutes in the Netherlands. In this paper we also report on a similar programme developed at Maastricht University called E-teacher. In principle the design of the program is identical to MARCH\textsubscript{ET}, therefore we refer to both programmes as MARCH\textsubscript{ET}.

18th EDINEB Conference: From Innovation to Crème de la Crème Education! 195
content knowledge in order to fit a pedagogical or technological approach. Therefore, it is important for teachers to determine how the three knowledge areas interact to create a powerful learning environment for students.

The section pedagogical content knowledge (PCK) in Figure 1 reveals which pedagogical approach best suits with the respective content taught in the module. The section technological content knowledge (TCK) shows that teachers need to know how to change the module content in order to apply technologies. The section technological pedagogical knowledge (TPK) illustrates that teachers need to understand that the use of technology can change the way of teaching. The intersection of these three (TPACK, positioned in the middle), visualises that content knowledge, pedagogical knowledge and technological knowledge interact with each other and therefore need to be optimally integrated. Here, it is clear which concepts are used in technological knowledge, how pedagogical knowledge can be used in a constructive way applying technology in order to transfer the content, and how technology can be used to solve students’ and teachers’ problems in education.

Figure 1 TPACK model Mishra and Koehler (2010)

**Instructional design and philosophy of MARCH**

The instructional design, philosophy and the pedagogy of MARCH was based on an active learning sequence called OIEAR model (Ebbens & Ettekoven, 2005): Orientation, (get) Information, Elaboration, Application, and Reflection. This model describes the sequence in learning process. Considering the content MARCH has four online modules: Collaborative knowledge building; Web 2.0 educational applications; Measuring knowledge and understanding; and Supervising students in distance learning. As a primary learning objective of each module, teachers were expected to develop a redesign of their own teaching course and implement it in their teaching practice no later than six months after completing the module. In line with recommendations of Lawless and Pellegrino (2007), during the professional development module teachers were actively encouraged to reflect on how their teaching practice could be redesigned based upon the topics discussed in the module. Furthermore, teachers were actively encouraged to critically discuss and reflect upon the design of their peer-teachers within their group. The sequence of the five learning steps in each module was as follows:

**Step 1. Orientation on the subject, ICT tools and the teacher’s practice**

The first step has three purposes: 1) to provide participants with a basic understanding of the main subject matter (e.g. how can teachers facilitate learners working together in discussion forums); 2) to discuss the advantages and disadvantages of ICT tools used; 3) to provide participants a first-hand experience of the discussed tools. Teachers shared their experiences of their own teaching practice with their group members. In particular, teachers discussed their main challenges or problems and how different pedagogical approaches and/or ICT tools can be used to redesign their teaching practice. Depending on the specific focus within the module, a range of different ICT tools were used. As primary virtual learning environment, Microsoft Sharepoint was used, which is a typical Content Management System equivalent to Blackboard and Moodle. In addition, a synchronous web-videoconferencing programme was used for participants during the kick-off meeting and subsequent classes to discuss in real-time. During the module participants were able to contact each other in asynchronous manners using discussion forums and email. Depending on
the aims of the module, additional ICT tools (wikis, Ning, blogs, annotation tool) were explicitly incorporated into the design. By designing the module in an online format and creating small groups of teachers from different institutions under supervision of two expert moderators, teachers experienced how ICT and group-work influenced their own learning in an authentic and relevant setting.

**Step 2. Make a relevant technological and pedagogical choice for the teacher’s practice**
In the second step, participants explored the information about the tools and were encouraged to elaborate what would be the most effective ICT tool(s) and pedagogical approach(es) for their respective educational setting. In other words, participants needed to evaluate and to discuss the ICT tool(s) with respect to the technological pedagogical knowledge and technological content knowledge and the possibilities how these tools and pedagogies could be embedded into their own teaching practice. This selection was discussed with their peers during one of the web-videoconference meetings.

**Step 3. Redesigning the teacher’s practice (TPACK)**
The third step required participants to apply their knowledge about TPACK specifically in the context of their own teaching practice. Participants started to redesign their module (C), changed their educational setting (P) and used the selected ICT tool(s) (T). While participants were redesigning their own teaching practice, they had to critically reflect on the alignments between content (C), pedagogy (P) and technology (T). Furthermore, they received feedback from other participants in their group and provided feedback on the designs of other participants.

**Step 4. Reflection on the teacher’s learning process**
At the end of the training programme, participants reflected on their own learning process and their experiences in the module and looked back to the situation when they started the module. After this step, the group process in the module is finished.

**Step 5. Implementation of the redesign into practice and evaluation**
Participants implemented their redesigned lesson(s) in their teaching practice and evaluated the effects on learning by students within six months after completing the MARCH module.

**Research questions and hypotheses**
Based upon our theoretical framework, we expected that teachers were satisfied by the innovative design as it allowed teachers to work and learn with other colleagues within their discipline. Furthermore, we expected that teachers were satisfied due to the fact that the modules were designed to focus both on enhancing the teachers’ theoretical understanding of learning and teaching (TPACK) and on redesigning the teacher’s practice at the same time. In addition, we expected that the teacher’s beliefs and attitudes towards learning, teaching and ICT changed during and/or after completing the module. Therefore, the following research questions were formulated:

1. To what extent were teachers satisfied with the innovative MARCH professional training program?
2. To what extent did the professional training program lead to a change in teachers’ beliefs and intentions to effectively implement ICT (TPACK) into their business education?

**Method**

**Setting**
An initial kick-off meeting of one hour was arranged using a web-videoconferencing session (Giesbers, et al., 2009), whereby participants in groups were introduced to the concepts and organisation of the module by the online moderators. Specific attention was paid towards creating a safe community whereby teachers felt comfortable to share knowledge. Subsequently, participants were working individually on a range of assignments per module, whereby the overall learning objective for participants was (to start) to redesign their own module based upon the key topics discussed in the module. Each module took eight to twelve weeks to complete with a total time investment of 20-25 hours.

**Participants**
74 teachers from eight institutes participated in at least one MARCHET module in the period April 2010 – June 2011. The participants were divided into twelve groups, whereby the average group size was 7.55 (SD = 3.85). The average age of the participants was 43.04 (SD = 10.16), while the average years of teacher experience was 5.75 (SD = 7.09). Overall, 64% of the teachers were male.

**Instruments**

**Pre- and post-test of Teacher Beliefs and Intentions (TBI)**

In order to measure the changing role of the teacher after the professional development, the Teacher Beliefs and Intentions (TBI) instrument of Norton et al. (2005) was used, which consists of 20 belief items and 20 intention items. Cronbach alphas on the nine scales ranged from .408-.627, indicating reasonable reliability.

**Pre- and post-test TPACK**

An adapted version of the TPACK instrument was used, which consists of 16 items (Mishra & Koehler, 2005; Schmidt, Baran, Thompson, Koehler, & Mishra, 2009). Cronbach alphas of the five scales ranged from .550-.799, indicating reasonable reliability.

**Learning satisfaction of module**

The first level of learning satisfaction of the participants of the teacher professional development programs was measured by a questionnaire developed by University of Amsterdam, which consists of 20 questions and one open question directly after the module was finished.

**Results**

**Learning satisfaction**

Of the 25 participants divided into five groups starting in three modules, 18 (72%) participants returned the post-test questionnaire. Participants in general were moderately satisfied with the overall training on a 5 point Likert response scale. As is illustrated in Table 1, participants in general indicated that the design of the training module was effective, despite the fact that the module was different from what the participants initially expected. Participants were very satisfied about the support provided by the moderator, the flexibility of the module setup, the assignments, and content and resources provided. At the same time, the lowest scoring elements according to the participants were their own contributions, the feedback from the group, the working of the group, and the degree to which the module met the expectations of participants. Finally, on average participants worked 13.61 (SD= 5.83) hours on self-study in addition to the four videoconferences, which is in line with the overall workload of 20 hours (including four videoconferences).

**Table 1 Learning satisfaction of the teachers at the end of the module**

<table>
<thead>
<tr>
<th>Description of the Elements</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>The moderator supported the learning process efficiently/good</td>
<td>4.06</td>
<td>0.42</td>
</tr>
<tr>
<td>I could spend my time working on the module flexible enough</td>
<td>4.00</td>
<td>0.84</td>
</tr>
<tr>
<td>The content of the module inspired me</td>
<td>3.67</td>
<td>0.91</td>
</tr>
<tr>
<td>Average score on usefulness of the six assessments</td>
<td>3.59</td>
<td>0.65</td>
</tr>
<tr>
<td>The module’s intention was clear to me</td>
<td>3.50</td>
<td>1.04</td>
</tr>
<tr>
<td>Working in the module was engaging and enjoyable</td>
<td>3.50</td>
<td>0.79</td>
</tr>
<tr>
<td>The learning material was of good quality</td>
<td>3.44</td>
<td>0.92</td>
</tr>
<tr>
<td>Working in the SURFgroepen environment was evident and easy</td>
<td>3.44</td>
<td>1.20</td>
</tr>
<tr>
<td>I would recommend this module to other people</td>
<td>3.39</td>
<td>1.04</td>
</tr>
<tr>
<td>The online videoconferences were useful</td>
<td>3.33</td>
<td>1.14</td>
</tr>
<tr>
<td>I’ve got useful feedback from the other participants</td>
<td>3.17</td>
<td>1.04</td>
</tr>
<tr>
<td>Working together as a group was very useful</td>
<td>3.17</td>
<td>1.04</td>
</tr>
</tbody>
</table>
The online consultation hours were useful 3.17 0.38  
I'm satisfied with my module redesign 3.17 0.71  
The assignments were motivating 3.11 0.76  
I'm happy with my own contribution 3.00 1.03  
I would like to have more online videoconferences 2.83 1.34  
The module was as I expected 2.67 1.14  
I would like to have more online consultation possibilities 2.67 0.91  
Recoded number of hours works during module 13.61 5.83

In addition to the closed questions, the comments provided by participants confirmed and strengthened the quantitative findings:

**Design of the MARCHET module**

The flexibility of the module (deliverables need to be handed in within a reasonable period of time, sufficient time in between) is an asset for attracting busy academics. I would underline that the module provides a very new perspective on teaching.

It is difficult to have any expectations for a module that intends to be truly innovative. And beyond that: several parts of the module were still in a rather experimental phase.

While using ICT seems promising in way of activating students, the design activities and actual implementation are separated by many months. There is no immediate feedback from the designed activities. I cannot determine whether the precious time spent on designing these activities and precious lecture time spent on bringing them to life will be really worthwhile. We will see, I guess...

**Group contributions and social interactions**

I am very satisfied with the content of the module, the professionalism and knowledge of the moderators, the learning goals of the module and the way we worked together with the other participants.

I realize that people are busy but I expected more participation. This affected a little bit my motivation and at the end I was also late with my assignments (something I've never done).

**Expanding ICT knowledge**

I expected the course to inform me on a set of digital tools and it did. It contained more eye-opening moments than I expected.

Working in SURF groepen was also a good experience. The videoconferences were very useful for exchanging knowledge and for building a group motivation and support system.

In Figure 2 and Figure 3 the participants’ beliefs and intentions measured at the beginning and end of the modules are illustrated. Only one scale is significantly different at a 5% confidence interval, namely the intentions for participants to motivate students, which is significantly higher at the post-test. At the same time, participants intent to focus less on imparting information during their education, although this p-value is only significant at 9%. In other words, a small change in teachers’ beliefs and intentions was found. At the same time, the limited duration for reflection may lead participants to underestimate the true training effect.
Table 2 Pre- and post test of Technological pedagogical content knowledge

<table>
<thead>
<tr>
<th></th>
<th>Pre-test</th>
<th></th>
<th>Post-test</th>
<th></th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current ICT usage</td>
<td>M 2.97 SD .69</td>
<td></td>
<td>M 3.16 SD .79</td>
<td></td>
<td>.090</td>
</tr>
<tr>
<td>Current expertise in collaborative learning</td>
<td>3.47 SD 1.06</td>
<td></td>
<td>3.28 SD 1.36</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Content pedagogical knowledge</td>
<td>3.83 SD .99</td>
<td></td>
<td>3.72 SD .96</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Technological pedagogical knowledge</td>
<td>3.54 SD .78</td>
<td></td>
<td>3.65 SD 0.67</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Technological content knowledge</td>
<td>2.88 SD .40</td>
<td></td>
<td>2.89 SD .54</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

In Table 2 the participants’ usage, expertise and intentions towards ICT at the beginning and end of the MARCHET module are illustrated. The majority of participants were not actively using ICT in their teaching (M= 3.08, SD = .66) at the beginning. On average participants had more experience with collaborative learning methods than with ICT within their education. With respect to the participants’ attitudes towards designing future education, participants indicated that they take into consideration how their content/discipline taught and pedagogy used should be balanced and integrated. Furthermore, participants indicated that they are taking into consideration how technology should be integrated into
content and pedagogy. At the end of the module, participants indicated to be more likely to integrate ICT into their education, although this effect is only marginally significant. Both technological pedagogical knowledge and technological content knowledge has increased, although not significant at a 5% confidence interval, which may be attributed due to the relatively small sample size.

Discussion
A large number of business schools deliver ill-equipped business graduates, who have a substantial body of theoretical knowledge but a limited amount of transferable skills and lack on practical management experience. In order to enhance the employability of business graduates in these difficult economic times, an active approach to learning in business education is needed, whereby teachers are able to successfully address a range of different learning needs. For some teachers this implies that business schools have to provide adequate training and support for teachers in order to raise the awareness of the complex interplay between technology, pedagogy and content. In this paper, we determined the impact of an online teacher training program that was developed by five higher educational institutes. By merging the expertise of these institutes together, we hoped to provide a powerful but cost-effective approach to training for our teachers. The focus of the training programme was on developing teachers’ skills to redesign their teaching practice by successfully implementing ICT into their education.

Using the conceptual TPACK framework developed by Mishra and Koehler (2005), we compared the teacher beliefs and intentions of 74 teachers from eight higher educational institutes in a pre/post test design. The preliminary results indicate that the teacher beliefs and intentions towards learning facilitation and knowledge transmission have not substantially changed during the module. Research on training programmes has found similar effects, whereby the direct impact of training measured after the programme was limited (Lawless & Pellegrino, 2007). The first results of the semi-structured interviews conducted three months after the training programme seem promising, whereby teachers have indicated to have substantially revised their education and integrate ICT into their teaching practice. With the 45+ participants finishing the training before the EDINEB conference, we hope to provide more robust (statistical) and practical evidence whether the programme was successful and why...

References


Acknowledgments
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Knowledge Work-based Practices

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Abstract: The challenge for universities is to engage in projects with SMEs that deliver measurable value, in the form of both knowledge exchange and discernable financial gains (revenue/profits), and with an approach that involves more peer-to-peer methods. This study evaluates the direct and in-direct contribution made by this type of knowledge exchange, and the potential role of ‘Knowledge for Business’ type mentoring and coaching schemes in contributing towards creating work-based learning practices, benefitting academics, students and employees. The approach taken in this study is one of choosing three business-university collaborations that represent very different business types, that have different business cultures, but whose marketplace challenges are all sales/marketing related. In addition we conducted a questionnaire of previous knowledge transfer associates and their company supervisors, some thirty in total, involved in UH KTP and K4B projects to explore their learning outcomes and the value of this as a form of skills/competence building experiences. All three of these business case studies, and the ‘Knowledge For Business’ schema use a combination of academics, students and business employees to work together on this knowledge exchange project, where learning is achieved by all three. This tri-learning experience is important to the success of the ‘Knowledge for Business’ (K4B) scheme for university-business collaborations in the future.

Introduction

Small- to Medium-sized Enterprises (SMEs) are increasingly operating in marketplaces that are uncertain, ambiguous and highly complex (Chaston, Badger et al. 2001; Mikkola 2001), where shorter product life cycles, more fickle customers, and quicker and more adaptable competitors are ‘hard’ realities of survival. SMEs, like larger organizations, are being pushed into undertaking low-carbon initiatives, acquiring new knowledge and technology from outside their existing networks (Garcia, Calantone et al. 2003), to stimulate the creation or modification of green customer-valued products, or services.

Burgelman (1984) suggested that individuals, and communities, who are attempting to extend the firms’ ‘domain of competence’ through internally generated innovation, are engaged in ‘corporate entrepreneurship’ (Burgelman 1984). These internal entrepreneurs, ‘intrapreneurs’, enact the new opportunities they perceive, or acquire, and drive the development and/or acquisition of new resources or knowledge combinations to stimulate new learning – resulting in new skills, competencies and opportunities. This mobile learning and associated collective actions by the owner-managers and intrapreneurs, thinking and acting both inside and outside the box, prompts a need for sensemaking (Weick 1995). Sensemaking is the process of constructing a link between future actions and past experiences and outcomes, providing our owner-managers and intrapreneurs with guidelines on when not to act, and how and when to act (Conrad and Poole 1998). These owner-managers and intrapreneurs actively pursue and create new linkages with external knowledge bases, like universities, research institutions and other innovative communities, and therefore surmount, or augment their current shortfalls, in knowledge and technology, associated with existing restrictive internal mindsets, resources, and skills (Freel 2000).

These new knowledge exchanges require resource changes, often recruiting and internal employee to become this new nascent intrapreneur, one that will and can challenge the existing business model – the existing rationale for the business processes. The knowledge exchange and our nascent intrapreneur bring with it a challenge for the existing owner-manager, often the founding entrepreneur. They are often forced to relinquish total control of the business model, and to challenge its underpinning values and belief systems. The collaborative effort between the owner-manager and the nascent intrapreneur, is potentially beset with problems, issues and conflicts, one of which is the acknowledgement of these nascent intrapreneurs as ‘strategists’ (Burgelman 1984) and the importance of their role in the strategic process of business model change. Other research on the dynamics of owner-managers and their interactional activities with the enterprise (Fuller and Moran 2001), suggest a multi-layer approach to this interdependence. These layers represent the different level of interactions, from networks, through
business-to-business relationships, down to the functional activities of the owner-manager, and his or her cognitions and mental models.

Entrepreneurial literature (Burgelman 1984; Russell 1999) suggests that ‘all entrepreneurial events originate in the creative acts of individuals’, but the development of these creative acts needs supporting systems that can provide resources, autonomy and emotional support. These supporting innovation communities or partnerships, share collective sensemaking of their social world (Marshall and Rollinson 2004), one constructed from their interpretations’ of organizational events, innovative outcomes, and the individuals’, and others’ collective actions. This sensemaking draws from their experiences, and training (Dougherty 1992), of how to create, develop and deliver superior customer-valued products, and services. These innovative partnerships create thought worlds and interpretative systems relating to their symbolic interactions surrounding a particular low-carbon initiative (Weick 2001). These are highly subjective actions and are driven by an agreed set of super-ordinate goals (Sherif 1975). These goals are key to the objectives of the innovative community, and link the communities’ desired value orientations, and therefore the standards of conduct, or behavior, expected of participants/partners (Bates and Chen 2004), with their interpretation of their own enterprises’ overall value drivers, and the underlying business model. It is these symbolic interactions, part of the rationale behind the owner-managers’ and intrapreneurs’ membership of this new innovative community, suggesting a potential cognitive conflict between the owner-manager, and our newly recruited nascent intrapreneur.

This paper reports on the research into one particular innovative community consisting of owner-managers, nascent intrapreneurs and academics on low-carbon innovative initiatives, a knowledge exchange schema set up by the University of Hertfordshire, usually conducted over a three to twelve month period. This paper focuses on the collective sensemaking of the knowledge/technology exchanges associated with developing a low-carbon product/service. These exchanges result in the need to change the enterprises’ business model, and more importantly the owner-managers’ mindset business model. The research outcomes should inform academics and practitioners of the difficulties of managing knowledge exchanges and the inevitable impact it has on the collective sensemaking driving business model change.

Enterprises’ Business Model

There are three factors driving SME success and failure: the effectiveness of the existing business model; the dynamics of business owner-managers’ and intrapreneurs’ mindsets; and the strategic orientation of the enterprise.

Business Model Concept

Business models are a ‘description of the roles and relationships among a firm’s consumers, customers, allies and suppliers that identifies the major flows of product, information, money and major benefits to the participant pp.1’ (Owens 2006). The components of the business model are the value creation, development and implementation activities if the enterprise. The business model constructs builds on this premise of value delivery by the integrated strategy and positioning of the enterprise’s products and services within the network of suppliers, partners and customers (Morris, Schindehutte et al. 2005). Owner-managers’ business models are often built upon the answers, the understanding arrived, from the following questions:

1. How does the enterprise create value?
2. Who does the enterprise create value for?
3. What is the source of competence?
4. How does the enterprise competitively position themselves?
5. How does the enterprise make money?
6. What are the enterprises time, scope and size ambitions?

The business model, defined by the answers to the six questions above, has to deliver three principal outcomes – it must fit the enterprise and its customer base (current and future), it must be sustainable and it must evolve – to meet uncertainty caused by competition and marketplace forces. The last two of these criteria, for a successful business model, are the key challenges for our owner-managers. Owner-managers look outside their enterprise for ideas of how to drive sustainability into their business model, hence the search for new knowledge, technologies and practices.
The UK business marketplace is more complex than it was twenty years ago, the simple linear model of “market pull” and “technology push” are insufficient to both, base a enterprises’ strategy on, or induce the critical movement of knowledge and technology throughout the economy (Etzkowitz and Leydesdorff 2000; Hekkert, Suurs et al. 2007). At the heart of this knowledge and technology transference revolution are the UK’s academic institutions, those same institutions that are heralded as the principal source of future entrepreneurs, innovators and leaders, they also hold the key to national economic development. In the UK the government has spearheaded a tri-partnership between industry, universities and themselves, the scheme the “Knowledge Transfer Partnerships (KTPs)” has been aimed at enterprises needing new knowledge and technology to move their business models onto the next level of growth and development. These KTPs are one mechanism by which the UK government hopes to transform both business and universities, the intention being to:

- establish government/enterprise/university relationships at a strategic level, where all partners are working towards a valued-solution;
- profit from the exchange – taking that from the individual partners perspective;
- that knowledge and outcomes can be flexible and adaptable;
- develop further the human capital factor (Ucbasaran, Westhead et al. 2009) – supporting the concept of a knowledge intensive economy;

However, the recent spending review by the current UK government has severely dented this scheme. The great advantages of the scheme has been the close collaborative relationship established between the academic institutions and the business community, particularly demonstrating the relatively quick impact these knowledge exchanges can have on the enterprises’ business model. As a consequence of the severe cutback on the UK government in this very valuable area of knowledge exchange the University of Hertfordshire has launched its own ‘Knowledge for Business’ (K4B) initiative. This study reports on the previous and current knowledge exchange projects, particularly the innovation and impact they have on the enterprises’ business model.

**Research Aims, Objectives and Strategy**

The research study set out to explore owner-managers’ and intrapreneurs’ approaches to the evaluation of these low-carbon opportunities and threats, and the impact they had on the enterprises’ business model.

<table>
<thead>
<tr>
<th>Firm Characteristics</th>
<th>Strategy</th>
<th>Management Team/ Style</th>
<th>Market Dynamics</th>
<th>Reasons for K4B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enterprise A&lt;50 employees</td>
<td>Differentiation</td>
<td>Business Owner</td>
<td>Regional Sectors</td>
<td>Limited Diversification</td>
</tr>
<tr>
<td>Enterprise B&lt;20 employees</td>
<td>Differentiation</td>
<td>Partnership (2) Scientist/Accountant</td>
<td>European Pharmaceutical</td>
<td>Market-orientation</td>
</tr>
<tr>
<td>Enterprise C150-200 employees</td>
<td>Diversification</td>
<td>Business Manager Leadership PLC</td>
<td>European Technologies</td>
<td>Improved Market Diversification Product portfolio</td>
</tr>
</tbody>
</table>

**Research Strategy**

During our visits to the enterprises we asked the owner-managers to collect together events since the last meeting that exemplified the current business processes and strategies used. The five questions below were used to open the meetings with the owner-managers, to get them to reflect on how the events have potential changed their mindset towards the sustainability and appropriateness of their business model, and the potential impact of the innovative initiative (K4B project) on their strategic orientation:

1. Describe your existing business model?
2. What type of business opportunities and threats do you face each year?
3. How do these opportunities and threats challenge your existing business model?
4. How do you evaluate these opportunities and threats?
5. What are the critical factors determining a positive outcome?

6. The three businesses where chosen out of thirty businesses studied over the last 5 years. Table 1, provides some background information about their operations and characteristics, and initial reasons for undertaking a Knowledge Exchange scheme.

The analysis of the qualitative data is presented in the next section.

**Findings**

**Enterprise A**
This enterprise operates in a fragmented medium-value manufacturing sector, servicing its business client with high quality products.

**Table 2. – Enterprise A Entrepreneurial Mindset, Strategic Orientation and Business Model Changes (Started\(1\) and Finished\(2\))**

<table>
<thead>
<tr>
<th>Perceptions of needed Business Model change</th>
<th>Environmental Factors</th>
<th>Prospective Business Model Changes</th>
<th>Strategic Orientation</th>
<th>Expected and Actual Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enterprise A</td>
<td>Sector uncertainty – falling sales(1)</td>
<td>Develop new markets and increase share of existing(1)</td>
<td>Reactive(1)</td>
<td>Previous success based on quality of product delivered – not turning into revenue/profit streams?(1)</td>
</tr>
<tr>
<td>Owner-manager</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>How to engage these new customers(1)</td>
<td>Marketing best practice to existing markets(2)</td>
<td>Analyzer(2)</td>
<td>Slowly changing value orientations from being process-driven towards being market-oriented(2)</td>
</tr>
<tr>
<td></td>
<td>Understanding business model(1)</td>
<td>Identify new market sectors(1)</td>
<td>Prospective(1)</td>
<td>Changing business entrepreneurs’ mindset model(1)</td>
</tr>
<tr>
<td>Intrapreneur</td>
<td>Delivering value through tactical marketing plans(2)</td>
<td>Legitimize the changes in market orientation through B2B research(2)</td>
<td>Analyzer(2)</td>
<td>Changing business entrepreneurs’ mindset model(2)</td>
</tr>
</tbody>
</table>

At the beginning of the project the business owner-manager, had just taken back control of business development from a senior manager, who then subsequently left. The enterprise had just been through a very demanding eighteen months period where orders had dropped by over a third. Yet through this period the owner-managers had remained active and positive. The nature of the business was both seasonal and non-repeat business, putting a strain on forecasting and developing any sustained relationship with key customers.

At the completion of the project, some fifteen months later, several important outcomes were noted. First, a market development plan was developed, highlighting potential sectors, lists of businesses likely to benefit from the enterprises’ services, and strategy to contact and visit them. The owner-managers’s strategic orientation had changed from ‘Reactive’ to ‘Analyzer’, but he was still very reticent to change market sectors or delegate more authority to the intrapreneur, as a consequence they left.

**Enterprise B**
This enterprise was started by a husband and wife team, who gave up their previous salaried positions to start a new business helping companies to get regulatory approval for their products. Like most of the previous enterprises discussed earlier, the opportunity to work with the university came from a chance meeting at a regional business engagement workshop. The owner-manager, the technical half of the partnership, was looking for specific knowledge and expertise to improve their market position, and to develop partnerships that would provide further opportunities for product/service developments. When the project started the owner-manager was relatively passive in his business development activities, having
instead spent much time on developing effective and efficient processes for undertaking the contract work. The key challenge for the business was to get more companies to use their services, to speed-up and electronically submit, for product approval requests. The past strategy to increase awareness of the products and services had limited success.

Table 3. – Enterprise B Entrepreneurial Mindset, Strategic Orientation and Business Model Changes

(Started\(^1\) and Finished\(^2\))

<table>
<thead>
<tr>
<th>Perceptions of needed Business Model change</th>
<th>Environmental Factors</th>
<th>Prospective Business Model Changes</th>
<th>Strategic Orientation</th>
<th>Expected and Actual Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enterprise B Owner-manager</td>
<td>Market development(^1)</td>
<td>Understanding of the market demands and buyer needs(^1)</td>
<td>Analyzer(^2)</td>
<td>Increase marketing performance(^1)</td>
</tr>
<tr>
<td>Intrapreneur</td>
<td>Market and product development(^2)</td>
<td>Product gaps and software development(^2)</td>
<td>Analyzer(^2)</td>
<td>Increased marketing performance(^2)</td>
</tr>
<tr>
<td></td>
<td>Market development(^1)</td>
<td>Understanding of the market demands and buyer needs(^1)</td>
<td>Analyzer(^2)</td>
<td>Marketing Communication Effectiveness(^3)</td>
</tr>
<tr>
<td></td>
<td>Market and product development(^2)</td>
<td>Product gaps and software development(^2)</td>
<td>Reactor(^2)</td>
<td>Increase Sales and Marketing Performance(^3)</td>
</tr>
</tbody>
</table>

At the completion of the project, some twenty-four months later, several important outcomes were noted. Generally sales leads had increased by over 100%, a comprehensive marketing strategy had been developed and the communications part of it had been implemented, with agreed Key Performance Indicators (KPIs). The owner-manager was a very analytically driven entrepreneur, requiring detailed analysis on any proposal suggested, and a clear indication of the performance expected and the tools to measure this. The owner-manager was willing to initiate change but unable to provide clear leadership on how to research and legitimize this change. Openness between owner-manager and intrapreneur was evident, and this led to strong mutual understanding, trust and respect for their relative contribution to business model change.

Enterprise C

This enterprise is a very different type of business having been a family run affair for over fifty years. The enterprise was an important system integrator for the retail sector, bringing together products and services to provide solutions that delivered value for its clients, and their customers. The enterprise was split into three separate business units, run by a dedicated and very sales-oriented owner-manager.

Table 4. – Enterprise C Entrepreneurial Mindset, Strategic Orientation and Business Model Changes

(Started\(^1\) and Finished\(^2\))

<table>
<thead>
<tr>
<th>Perceptions of needed Business Model change</th>
<th>Environmental Factors</th>
<th>Prospective Business Model Changes</th>
<th>Strategic Orientation</th>
<th>Expected and Actual Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enterprise F Owner-manager</td>
<td>Integrated Product/market development strategy(^1)</td>
<td>Understanding of the market demands and buyer needs(^1)</td>
<td>Prospector(^1)</td>
<td>Integrated Marketing and Product Strategy(^1)</td>
</tr>
<tr>
<td>Intrapreneur</td>
<td>Integrated Market and product development(^2)</td>
<td>Marketplace/Technology Roadmapping(^2)</td>
<td>Prospector(^2)</td>
<td>Integrated Marketing and Product Strategy(^2)</td>
</tr>
<tr>
<td></td>
<td>Integrated Product/market development strategy(^1)</td>
<td>Understanding of the market demands and buyer needs(^1)</td>
<td>Analyzer(^2)</td>
<td>Integrated Marketing and Product Strategy(^1)</td>
</tr>
<tr>
<td></td>
<td>Integrated Market and product development(^2)</td>
<td>Marketplace/Technology Roadmapping(^2)</td>
<td>Analyzer(^2)</td>
<td>Integrated Marketing and Product Strategy(^2)</td>
</tr>
</tbody>
</table>
Interestingly, this enterprise had engaged with the KE scheme previously when it was looking to improve its operational processes, specifically managing its diverse product and system development projects. When the project started the BM was active in development his business markets, looking for new product opportunities and market developments that would both increase revenue, and profit streams. The key challenge for the businesses was in developing an integrated approach to both the effective management of the product portfolio, and identification and evaluation of market opportunities. The somewhat eclectic nature of previous business development could not be sustained without some rationalization of the product portfolio and a more analytical approach to market/product sector evaluation and selection.

At the completion of the project, some twenty-four months later, several important outcomes were noted. Market and Product strategies were integrated, investment in product technologies and development of core skills and competencies was focused, delivering high improved revenue/profit streams. The owner-manager was a prospective entrepreneur, requiring little analysis of a market/product opportunity to actually commit to it, this remained largely unchanged at the end of the project. The owner-manager was quick to initiate changes in the business model, but was weak at legitimizing these based on medium/long term benefits, again unchanged by the end of the project. A healthy relationship was developed between the owner-manager and the intrapreneur, but the relationship was too distant, not enough leadership was provided in more critically evaluating opportunities versus costs.

**Conclusions**

This paper began by proposing that business model change initiatives, stimulated by Knowledge Transfer Partnership (KTP) and the K4B schemes around ‘low-carbon innovative initiatives’ in general, was a systematic approach undertaken by the owner-manager and nascent intrapreneur jointly. Identifying and initiating change in the different areas of the business model, with the help of the newly recruited nascent intrapreneur, backed up by an academic supervisor/mentor, providing support for the owner-manager in legitimizing the change, identifying both new business and customer value associated with ‘greening’ the products and services.

**Figure 1: Learning Framework of a Low-carbon Knowledge Exchange Initiative**

The author’s analysis of the three enterprise case studies identified the challenges that SMEs are facing when attempting to address ‘low-carbon innovative initiatives’ associated with creating and developing future greener products and services. Interestingly, for our three enterprises, in particular, the traditional issues common across SMEs, like short-term orientation, scarce resources and poor networking capabilities, did not put a halt on the development of green products and services. What was of more
concern for the SMEs was the ability to detect the opportunities and threats represented by the emerging Environmental Goods and Services sector (EGS), and to develop a business-wide strategy. The learning framework, see figure 2 above, emerged from our analysis and observations:

**Initiating Change** – all of our owner-managers were managing existing enterprises attempting to diversify their business strategy to take advantage of the new low-carbon marketplace. The initial high levels of risk uncertainty resulting from combining the newly acquired technological knowledge, practices and awareness of new markets was tempered by the support given by the Knowledge Transfer Partnership (KTP). A key element in the potential success of the low-carbon innovative initiative was attributed to the early owner-managers activity and support, particularly the influence and input they have on the business processes.

**Knowledge & Expertise** – our analysis of our owner-managers and their workforces established their general acceptance of the importance of market & technology knowledge and expertise as the strongest contributor towards their enterprises’ competitive advantage. A point supported by other research on the activities of entrepreneurial firms’ in uncertain marketplaces (Studdard and Munchus 2009).

**Innovative Leadership** – the recruitment of the nascent intrapreneur was heralded by all owner-managers as one of the key elements associated with the success of the KE scheme. The primary reason cited was the additional leadership provided by these individuals within the enterprise to drive innovation, and particularly to challenge the existing status quo within the enterprises existing business model.

**Market Identification** – our analysis of these three case studies and other enterprises previously engaged in knowledge exchange activities with the university has identified the relative myopic nature of our owner-managers knowledge of his current and future low-carbon product based marketplace. With the help of the academics mentoring of the owner-managers, and importantly the nascent intrapreneurs, all of the enterprises have been able to more accurately identify and target new low-carbon product-related markets, enabling the enterprises to develop new previously untapped revenue streams, and importantly create more sustainable competitive advantages over their current competitors.

**Legitimization** – probably one of the key challenges for our owner-managers in getting approval of, commitment to and overall agreement from all the other enterprise employees was the legitimization for the change. Many of our owner-managers had great difficulty with convincing other senior colleagues and the workforce in general of the benefits of adopting and disseminating low carbon initiatives both in the enterprises processes, and importantly embedding it into future products and services. The knowledge exchange scheme provided the detailed evidence relating to both financial and non-financial impact on the overall business model.

**Strategic Orientation** - interestingly most of our case study enterprises started out as having a re-active strategy towards ‘green issues’, adopting a minimum compliance approach to regulations and sector-wide green initiatives. Their recruitment to, and participation in, this ‘low-carbon initiative knowledge exchange’ had changed the owner-managers perspective of seeing these low-carbon initiatives as a future proactive strategy – one that could deliver multiple benefits (increase revenue and profitability, competitive advantage, and access to new customers). Effectively these owner-managers adopted an analyzer strategy of evaluating the benefits and costs of being an ‘early mover’. Some of the enterprises went further by adopting a prospector strategy, taking on new technologies that would deliver more radical improvements in their product and services environmental performance.

This paper presents a first step in understanding and interpreting the owner-managers development of a learning framework to assist in the implications of pushing through ‘low-carbon innovative initiatives’ into the enterprises’ products and services. Though our research sample is small, we have been able to undertake a very in-depth analysis of the changes experienced by these enterprises in engaging in a low-carbon driven K4B initiative.

**Future Direction for Research**
The results showed that these knowledge exchange activities do contribute significantly to the development of both the owner-manager and internal nascent entrepreneur, they enhance the overall company culture.
and encourage many of the company employees to seek out other training opportunities. The KTP scheme is limited in the UK, with the TSB limiting this to just over 800 live projects, but the K4B scheme could be rolled out to other universities. Our conclusions are that the action research approach delivered as part of the K4B scheme to business-university (academic/student) engagement has very positive outcomes for the SME sector, and particularly those businesses struggling to adopt new technologies and knowledge. It also significantly contributes to the nascent intrapreneurs’ experience of working on strategically based projects under the careful mentoring and supervision of an experienced academic. Our proposed framework for the adaptation of the action research approach (K4B) to accommodate different business types, business problems and varying sectors challenges to achieve employment-related academic/student/employee skills and competencies.

References
Feedback in Teams: a Review

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Abstract: Feedback is proposed as a potential powerful intervention that can support teamwork and performance. This paper reviews the literature on the effects of feedback provided to teams by an external agent in higher education or organizational settings. This review (59 empirical articles) showed that most of the feedback applications concerned “knowledge of results” (performance feedback). In contrast, there is a relatively small body of research using feedback about the way individuals or the team performed a task (process feedback). Concerning feedback effectiveness, half of the studies implementing performance feedback research reported uniformly positive effects while the other half resulted in positive effects on some dependent variables and no effect on others. All the studies using solely process feedback showed mixed results: some dependent variables improved while some others didn’t change. None of the studies reported any negative feedback effect. This review also highlighted 28 key factors to feedback interventions effectiveness.

Technological developments have resulted in sophisticated and complex systems in which humans have to operate. The complexity does not only refer to the dynamics of the environment but also to the nature of the problems to address. The data professionals have to handle are unclear and suggest multiple interpretations about the environment. Therefore, problems cannot longer be addressed by high-expert individuals; teams are increasingly needed to manage these complex situations. They are ascribed great potential because they are capable of contributing different knowledge bases, integrating different perspectives and building new understandings. Similarly, in educational settings, different forms of collaborative learning environments requiring peer interactions and shared effort of small groups of students to solve complex problems have been implemented expansively (Barron, 2000; Dillenbourg, 1999; Druskat & Kayes, 2000). They are believed to provide students with opportunities to develop their teamwork skills. Working in teams, however, does not automatically insure team performance (Roschelle & Teasley, 1995). Some teams may fail to use their potential or consider teamwork time-consuming and too demanding (Dickinson and Mc Intyre, 1997; Rummel & Spada, 2005). Providing teams with adequate support is needed to secure effective teamwork.

Feedback is argued to be a powerful tool to shape team learning and performance (Kozlowski & Ilgen, 2006; London & Sessa, 2006). It has been proposed as a powerful feature in any learning process and achievement (Bartram & Roe, 2008; Boud, 2000; Hattie, 1999) and received considerable research attention as a determinant of individual behavior (Kluger & DeNisi, 1996). The present review is about feedback interventions defined as the communication of information provided by (an) external agent(s) concerning actions, events, or processes relative to a task completion (London, 2003, London, Polzer, & Omoregie, 2005) and implemented in team settings. We consider both performance feedback (e.g., information about individual or group performance) and process feedback (e.g., information regarding the way individuals or the team performed a task) targeting either the team as a whole (team-level feedback), either the individuals of the team (individual-level feedback) or both of them.

Though feedback is widely acknowledged as a valuable tool for individual learning in general, it is not clear whether teams benefit from feedback to enhance their team processes and/or their performance. In this review, we examine the general trends of feedback research in teams and attempt to determine its potential differential impact. Moreover, we identify possible important variables to feedback effectiveness. The question of under which conditions feedback is actually efficient is important to its implementation as feedback is not provided in a vacuum and may not always lead to the expected changes. Considering feedback as a lever dependent of a series of variables related to its implementation and context builds up a first step toward the understanding of what makes a feedback powerful in teams.
An exhaustive search was made of the published literature concerned with the effects of feedback on performance or cognitive or social variables in team environments in higher education or organizational settings. 59 empirical articles were selected based on the criteria for inclusion set in the review.

This review showed that most of the feedback applications concerned performance feedback. In contrast, there is a relatively small body of research using process feedback. Studies contrasting different levels of feedback, mostly about performance, were very frequent (15 studies). Although researchers increasingly recognize the potential interest of providing teams with feedback at different levels, none of them contrasted the effectiveness of process versus performance feedback. And yet this is considered a promising strand of feedback research as teamwork raising specific cognitive and social processes is said to be critical for team effectiveness.

Concerning feedback effectiveness, feedback research in teams showed mixed results. On the one hand, many studies showed that feedback impacted a huge diversity of critical interaction processes (e.g., motivation, team goal and collaboration/cooperation) and emergent states (e.g., collective efficacy, cohesion, outcome expectations and task concern) contributing to team effectiveness and occasionally had a direct impact on team performance. Moreover, none of the studies reported any feedback negative effect, except one study in which the authors hypothesized a decrease of the dependent variable due to the negative feedback sign. On the other hand, some studies underlined that feedback may not always lead to some changes. Specifically, half of the studies implementing performance feedback reported uniformly positive effects while the other half resulted in positive effects on some dependent variables and no effect on others. All the studies using solely process feedback showed mixed results: some dependent variables improved while some others didn’t change. Regarding studies contrasting feedback levels, their results have been mixed in 12 studies (among 19), but several reported some consistent positive effects on all the dependent variables. Some researchers took a more comprehensive angle on the question of the level that feedback should target. They emphasized some characteristics of the situation or the team members on which feedback effect may depend as the level of the goal that they are given or the team workload. This naturally brings about the question we tackle on the key factors that might enhance and support feedback effectiveness.

Overall, we identified 28 factors, mostly feedback characteristics and team or individual situations. In practical terms, it appears that feedback intervention effectiveness might be improved if feedback is accurate, given in a timely manner, regular, non-threatening, shared, given directly to teams it targets and when its distribution is fairly equal. Positive feedback was generally shown to be positively linked to performance and interaction process variables. However, despite its potential detrimental effect on members’ affective reactions, unfavorable feedback does not always bring negative outcomes. Similarly, it was shown that teams with no redundant members nor overlaps in task completion, projects teams, teams setting goals and strategies, given incentives and rewards, provided with information concerning their goal attainment, teams believing they are high performing, with no unsolved intragroup conflicts and with a flexible workload were likely to show improvements. Furthermore, feedback to high-ability individuals, in a positive mood given individual incentives, rewards and reinforcements and having the opportunity to set goals and expectations is also like to be more powerful. Finally, one single study provided support for the importance of the perception of feedback and showed consistent results. A great deal of work remains to be done on the effect of how feedback is perceived and processed. It appears to be a black box that has yet to be understood. A question that still deserves further investigation is what are the processes occurring between feedback reception, feedback acceptance and the eventual subsequent changes. If teams do not assign meaning to the received feedback and do not consider it as relevant, important, and useful for their practice, they won’t probably implement any expected changes. Conversely, teams valuing feedback they received are more likely to modify their strategies and behaviors. Team learning behaviors could be a reflection of how the feedback is dealt with. These are knowledge sharing behaviors during which the team builds meaning and reaches a common understanding.

This study provides organizations with insights and tools to support their teams. It highlighted that feedback is indeed a potent key practice in which organizations should allocate resources: both trainings and on-the-job interventions should be tailored to the team situations and characteristics to support life-long learning. In educational settings, teachers should continuously observe their students when engaged in a team task so that they can provide them with timely feedback that could help teams optimize their teamwork. Usually, teams receive a team grade at the end of the assignment and are not monitored during the process when they may benefit most from it to make some improvements. Moreover, besides performance feedback effectiveness, the present review demonstrated that process feedback interventions
could influence important interactions processes and team properties that facilitate learning and performance. In order for a team to function effectively, it is essential for its members to improve their team skills and communication. These team skills necessitate different feedback interventions conveying information about how teams communicate, interact, establish the team atmosphere, define their team objectives, strategies, monitor their performance, come to a common understanding of the task and its requirements, build upon each other’s expertise, and coordinate in an efficient way. Process feedback helps team members identify specific areas for improvement and ways to improve. For example, teams displaying problems of communication or irrelevant strategies may lack information about what and how to improve or may not be aware of their behaviors. Since feedback has so many facets and can be augmented in various ways, teachers, managers, and trainers should first pay attention to the team setting, context, and characteristics, observe and monitor their teams on a regular basis to develop relevant team interventions that facilitate and reinforce positive team behaviors and in turn, performance. Moreover, implementing a feedback intervention acts as a prescriptive reference against which teams can evaluate their own behaviors. It helps them understand what is meant by effective (team)work in their specific setting and provide them with an opportunity to learn.

References
Lifelong learning and sustainable employment

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Abstract: The objective of this study is to explore in what way age is related to employability, workability and vitality of workers, and whether these relationships are influenced by the amount of lifelong learning (LLL) obtained by workers. We analyze data from a survey among 196 employees from Dutch primary schools. The analysis was based on one-factor, between subjects multivariate analysis of variance (MANOVA). Results suggest a positive significant relation between age and employees’ employability, but not between age and workability or vitality. Additionally, we found that LLL is positively related to the three aspects of sustainable employment: employability, workability, and vitality. Finally, the interaction between age and LLL showed significant effects for employability and workability. No interaction effect between age group and LLL was found for vitality. The value of our study lies in the better understanding of LLL and its relationship to employability, workability and vitality in the Netherlands.

Introduction
Lifelong learning (LLL) has long been defined as formal learning, that is as an extension of formal education. One saw LLL as employees following continuing education programmes at universities or private educational institutes. Only recently has LLL become a focal point of European policy in relation to innovation, economic growth and social-cohesion, often in conjunction with the perceived need to transform production workers into knowledge workers (CEDEFOP, 2009). With this focus, there has also been a broadening of the scope of LLL to include informal LLL. In the workplace informal LLL encompasses on-the-job learning, working as part of a team, and learning from customers, clients and suppliers.

A notable current characteristic of the working population is its ageing. The baby boom cohort will start retiring in the coming decade. At the same time, fewer young people will enter the labour market due to lower birth rates in the past few decades. To overcome the negative effects of an aging labour force, there is a need to find means for prolonging healthy labour participation of older workers, i.e. increasing their employability, workability and vitality. Employability refers to “the ability to keep the job one has or to get the job one desires” (Rothwell and Arnold, 2007, p.25). This definition encompasses the importance of maintaining a position (Iles, 1997) and it also includes aspects of future success (Van der Heijden, 2002). This definition is close to the definition proposed by Forrier and Sels (2003): an individual’s chance of a job in the internal and/or external labour market.

Workability refers to physic, mental and social aspects of the ability to work. It is defined as to the ability to do one’s work with respect to the work demands, health and mental resources (Ilmarinen et al, 2005). Vitality points to energy, flexibility, persistence and motivation of workers (Schaufeli en Bakker, 2007). These three concepts together make up sustainable employment (Van Vuuren, 2011). Sustainable employment denotes the degree in which employees will and can carry out their current and future work (Van Vuuren, 2011).

The objective of this paper is to investigate whether LLL interacts with age in the relationship with sustainable employment. Our research question is: in what way does age influence the employability, workability and vitality of workers, and are these relationships influenced by the amount of LLL of the workers? Emphasis will be on the associations between LLL, age, and aspects of sustainable employment. It is expected that the more LLL initiatives used by employees, the higher sustainable employment, i.e. employees’ employability, workability and vitality, even for older workers. Also the interaction effects between age, LLL and sustainable employment will be studied. The hypotheses will be addressed by analysing data from a survey among 196 employees from Dutch primary schools. The value of the underlying study lies in the better understanding of LLL and its relationship to employability, workability and vitality in the Netherlands.
In this paper we first present a review of the literature on LLL and sustainable employability, which leads to several hypotheses. In the subsequent section, we elaborate on our research design and the methodology used. This is followed by the results. Finally, we present a conclusion and a discussion of our findings.

**Literature review and hypotheses**

Previous research indicates that older workers are associated with lower workability (e.g. Ilmarinen & Tuomi, 1992; Neilsen, 1999; Pohjonen, 2001). Van den Berg et al. (2009) report on seven studies on the relationship between age and the level of workability among employees. Four of these studies found a negative correlation between age and workability. Two studies found no association, and only one study showed a lower workability among younger workers.

Employability appears also to be negatively associated with age. An indication is the risk of unemployment. The older one gets, the larger the chance of becoming unemployed (Mur, de Vos & de Jong, 2008). Also Van der Heijden and colleagues found that older workers have more difficulties in finding employment than younger ones and that age negatively effects employability (Van der Heijden, 2002, Van der Heijde & Van der Heijden, 2005). This negative relation shows that there are less labour market opportunities for the older workers: a segmented labour market prevails, where people in different segments have different opportunities (Berntson, Sverke & Marklund, 2006).

Although one might expect that vitality decreases with age, Ryan and Frederick (1997) demonstrate that vitality has no correlation with age whatsoever. This is explained by aspects that enhance the level of vitality, such as autonomy, competence or good social contacts, which might be more present among older workers. In this vein, the following hypothesis:

**Hypothesis 1:** Age group has a significant relation to two aspects of sustainable employment, namely (a) employability, (b) workability, but not with (c) vitality.

Although LLL is put centre stage by governmental initiatives and in European policy, because of its assumed impact on innovation and economic growth (CEDEFOP, 2009), little is known about the role of LLL in the relationship between age and sustainable employment. It is to be expected that LLL might lead to higher workability, employability and vitality of especially older workers. Earlier research suggests a positive relationship between the undertaking of LLL and employability (Kluytmans & Ott, 1999, De Vries, Gründemann, & Van Vuuren 2001; Berntson et al., 2006, Wittekind, 2007). Human capital theory proposes that participation in training and development programs would lead to higher employability (Becker, 1993, Berntson et al., 2006). Human capital refers to knowledge, skills and health (Becker, 1993). Becker (1993) states that investment in human capital will lead to higher earnings. Continued learning throughout an employee’s career will stimulate employees in taking responsibility for constructing their own learning pathways, which in turn will stimulate and sustain their employability (Green, 2002). Groot and Maassen van den Brink (2000) indeed found that on-the-job training significantly raised employability.

Less is known about the relation between LLL on the one hand and workability and vitality on the other hand. One might expect that that LLL keeps people eager, ‘young of mind’ and curious. Jenkins et al. (2002) undertook a study among a cohort of individuals born in 1958, about LLL defined as learning between the ages of 33 and 42 that results in a qualification. They found that undertaking LLL increases the employability of the unemployed. They also found that learning leads to learning. Undertaking one episode of LLL increased the probability of individuals undertaking more learning. Also, they found that LLL impacts people’s earnings. Among individuals with no qualifications in 1991, persons who undertook LLL showed faster earnings growth during 1991 to 2000, than those who did not undertake LLL. These positive results might be correlated to work ability and vitality. We assume that LLL influences sustainable employment. Consequently, we propose:

**Hypothesis 2:** LLL is positively related to the three aspects of sustainable employment, namely (a) employability, (b) workability, and (c) vitality.

While research has been done on the direct relationship between age and work ability, employability and vitality, no research has been directed towards the possible interacting role of LLL,
which is important to investigate, because findings might indicate in which direction managers can undertake viable action, and whether certain policy guidelines might lead to sustainable employment. Therefore, we suggest:

**Hypothesis 3**: LLL interacts with age in the relationship with the three aspects sustainable employment, namely (a) employability, (b) workability and (c) vitality. In other words, older employees will be (a) employable, (b) workable and (c) vital when LLL is high. Conversely, when LLL is low, older employees will be less (a) employable, (b) workable and (c) vital.

Figure 1 presents our model that links the key variables in this study. The model pertains to the hypotheses and identifies the relative importance of age on the various aspects of sustainable employability, while taking into account the interaction effect of LLL.

![Figure 1: the conceptual model](image)

**Methodology**

**Sample and data collection**

Data for this study was collected using a survey among 196 employees from 9 Dutch primary schools. The questionnaire was administered online via email to 7 schools and via regular mail to 2 schools. A total of 182 responses were received. Removing all responses containing incomplete or ambiguous answers resulted in 178 valid responses (90.8% response rate). The sample included 43 male (24.2%) and 135 female teachers (75.8%). The mean age of the employees was 42.4 years (sd=12.1). Their organizational tenure was on average 11.6 years (sd=9.8). The average size of the schools was 20.2 employees. Of the employees 41.2% worked fulltime.

Data for this study was collected in an action research project among Dutch teachers that aimed to improve the sustainability of employment. Only aggregated data on school level were communicated to the school, no individual results. The questionnaire was accompanied by a cover letter stating the purpose of the study and an assurance of confidentiality and anonymity. Prior to the distribution of the questionnaire, two subject-matter experts were asked to provide comments and suggestions on the clarity and readability of the questionnaire’s items. Based on their feedback, the content of the cover letter and the design of the questionnaire were adapted.
We used self-reports of employees, hence the relationships between the variables may be affected by common method variance (Podsakoff et al., 2003). To minimize this bias we undertook these following procedural remedies. First, the respondents’ anonymity was protected with respect to their employer, respondents were assured that there are no right or wrong answers, and they were urged to answer questions as honestly as possible (Podsakoff et al., 2003). Second, several questions were reverse coded, also reducing the threat of respondents “guessing” (Malhotra et al., 2006). Third, the research model (Figure 2) includes an interaction effect, therefore it is not likely that the hypothesized relationships are part of the respondents' cognitive map (Harrison, 1996; Chang et al., 2010).

Another potential threat to validity is non-response bias. We tested for this using the procedure recommended by Armstrong and Overton (1977). T-tests indicated that no statistical significant differences existed with respect to any of the variables between first and late respondents. Hence, the threat of non-response bias in the data is believed to be low.

**Measures**

Multiple-item scales, closely following previous studies, were used to measure each construct. If possible, items were measured on 5 or 7-point Likert-scales. We provided verbal labels for the midpoint of scales and avoided using bipolar numerical scale values (e.g., -3 to +3) in order to reduce acquiescence bias (Tourangeau et al., 2000). The following scales were assessed:

**Workability** is measured by the Work Ability Index (WAI), developed by the Finnish researchers Tuomi, Ilmarinen, Jahkola, Katajarinne and Tulkki (2006). WAI is an established tool for measuring the work ability of individuals, and it has been proven to be a good predictor of what one’s work ability will be in the future. WAI takes into consideration the physical and mental demands of work and the health and resources of the employee (Tuomi et al., 2006). It consists of the following items:

1. Current work ability compared to the lifetime best comprises the work ability score that is often used as a separate indicator of work ability and has been described above (0–10 points).
2. Work ability in relation to the demands of the job (2–10 points).
3. Number of current diseases diagnosed by a physician (1–7 points).
4. Estimated work impairment due to diseases (1–6 points).
5. Sick leave during the past year (1–5 points).
6. Own prognosis of work ability two years from now (1, 4 or 7 points).
7. Mental resources (1–4 points).

WAI is calculated by summing the points of the seven items, hence the score ranges from 7 to 49 points. The index is divided into: poor (7–27 points), moderate (28–36 points), good (37–43 points), and excellent (44–49 points) (Tuomi et al. 2006).

**Employability** consists of 13 items. All items were measured on a 5-point Likert-scale. The items represent willingness to be mobile (7 items), perceived labour market position (3 items), and achieved mobility the past two years (3 items). Examples of questions are “I want to keep the same job for the next three years?”, “If I had to apply for another job, would I succeed rapidly in finding it?”, and “I have extended my current job in the past two years?” Cronbach’s alpha of this scale is 0.77.

**Vitality** is measured by the “vigor” scale, which is part of a self-report questionnaire “the Utrecht Work Engagement Scale” (UWES), developed by Schaufeli and Bakker (2003) and including the three constituting aspects of work engagement: vigor, dedication, and absorption. Vigor is assessed by six items that refer to high levels of energy and resilience, the willingness to invest effort, not being easily fatigued, and persistence in the face of difficulties. These items were measured on a 7-point Likert-scale. Examples are “At my work, I burst with energy”, and “I can continue working for very long periods at a time”. Cronbach’s alpha is 0.83.

**LifeLong Learning** (LLL) is measured by ‘willingness to undertake (in)formal education’ (5 items), and ‘possibilities offered by employer for (in)formal education’ (4 items). All items were measured on a 5-point Likert-scale. Examples are “I am willing to engage in further training when it is necessary for a good fulfillment of my job”, “I expect to engage in continued job-related training in the upcoming three years” “My current job meets my ambitions” and “My job offers possibilities to learn new things.” Cronbach’s alpha is 0.78. LLL was divided into two groups, below mean LLL (low) and above mean LLL (high).
Age. Conform similar studies, age was divided into three categories, below 45 years (age 1), between 45 and 55 years (age 2), and above 55 years (age 3).

The survey also included demographic and control variables such as gender and education level.

Results

Table 1 reports the means, standard deviations, and bivariate correlations for predictors, dependents and demographic variables across 178 respondents.

Table 1: Means, Standard Deviations, and Correlations (N = 178).

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>SD</th>
<th>Age</th>
<th>LLL</th>
<th>Employability</th>
<th>Workability</th>
<th>Vitality</th>
<th>Gender (male =1)</th>
<th>Educational level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>42.35</td>
<td>12.11</td>
<td>-</td>
<td></td>
<td>-0.26**</td>
<td>-0.14</td>
<td>0.34**</td>
<td>0.32**</td>
<td>0.43</td>
</tr>
<tr>
<td>LLL</td>
<td>3.90</td>
<td>0.52</td>
<td></td>
<td></td>
<td>-0.36**</td>
<td>0.34**</td>
<td>0.18*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Employability</td>
<td>2.37</td>
<td>0.60</td>
<td></td>
<td></td>
<td>-0.14**</td>
<td>0.29**</td>
<td>0.04</td>
<td>-0.13**</td>
<td>0.15*</td>
</tr>
<tr>
<td>Workability</td>
<td>40.92</td>
<td>4.48</td>
<td></td>
<td></td>
<td>-0.01</td>
<td>0.01</td>
<td>0.10</td>
<td>0.15*</td>
<td>0.06</td>
</tr>
<tr>
<td>Vitality</td>
<td>5.00</td>
<td>0.78</td>
<td></td>
<td></td>
<td>-0.29**</td>
<td>0.04</td>
<td>0.42**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gender (male =1)</td>
<td>0.24</td>
<td>0.43</td>
<td></td>
<td></td>
<td>-0.11**</td>
<td>0.15*</td>
<td>0.06</td>
<td>0.06</td>
<td></td>
</tr>
<tr>
<td>Educational level</td>
<td>5.96</td>
<td>0.59</td>
<td></td>
<td></td>
<td>-0.01</td>
<td>0.01</td>
<td>0.06</td>
<td>0.06</td>
<td></td>
</tr>
</tbody>
</table>

Table 1 indicates that control variables such as gender and education level appear to have none to slight correlation with the variables of interest (.06 -.32). They therefore require no further concern. From the dependents, employability and vitality seem not related at all. Workability and vitality show the largest overlap (.42). However, this level of relatedness between dependents is not considered a heavy risk for multicollinearity in further MANOVA analysis (Grice & Iwasaki, 2007).

We conducted a one-factor, between subjects multivariate analysis of variance (MANOVA). The three aspects of sustainable employment, namely employability, workability and vitality, served as the dependent variables in the analysis, and age comprised the independent variable. Evaluation of the homogeneity of variance-covariance matrices and normality assumptions underlying MANOVA did not reveal any substantial anomalies, and the a priori level of significance was set at .05.

Results from the one-way MANOVA revealed a significant multivariate main effect for age, Wilks’ lambda = .835, F (6,340) = 5.350, p < .001, partial eta squared = .09. Power to detect the effect was .996. Thus, in this first step, the dependent variables are found to be not equal across age groups. The results also revealed a significant multivariate main effect for LLL, Wilks’ lambda = .843, F (3,170) = 10.533, p < .001, partial eta squared = .16, power .999. Thus, the dependents are found to be not equal across levels of LLL either. The interaction between age and LLL appeared statistically significant as well, Wilks’ lambda = .927, F (6,340) = 2.196, p < .05, partial eta squared = .04. Power to detect the effect was .775. Thus, an interaction effect of LLL on the relationship between age (group) and the dependents is present.

Given the significance of the overall tests, the univariate main effects were examined. Significant univariate main effects for age were obtained for employability, F = 14.990, p < .001, partial eta square = .148, power = .999, but not for workability and vitality. Because we expected an effect for employability and workability, hypothesis 1 is partly confirmed. Significant univariate main effects for LLL were obtained for employability, F = 7.919, p < .005, partial eta square = .044, power = .799; workability, F= 17.672, p < .001, partial eta square =.093, power = .987; and vitality F = 16.244, p < .001, partial eta square =.086, power = .980. Thus, hypothesis 2 is fully confirmed.

The interaction between age and LLL showed statistically significant univariate effects for employability F= 3.345, p < .005, partial eta square =.037, power = .626. In addition, we found a slight significance for workability F= 2.989, p <.10, partial eta square =.034, power = .574. No interaction effect between age group and LLL was found for vitality, however. This means our hypothesis 3 is confirmed, although not entirely.
For more insight in the patterns of the relationships between age, LLL and the dependents, we turn to visualizations on the estimated marginal means of these three variables. First, the results for employability are presented in Figure 2.

**Estimated Marginal Means of EMPLOYABILITY**

![Graph](image)

Figure 2 indicates that the three age groups differed in the patterns for employability. The figure shows that young employees are more employable than older employees, and their employability remains about the same whether they undertake many LLL activities or not. In contrast, old employees show to be less employable compared to young employees. However, their employability increases as they undertake many LLL activities. In other words, older employees (older than 55 years of age) with little interest in LLL have a lower employability than those with high interest in LLL. Differences in employability between age groups become smaller as employees undertake many LLL activities.

As can be seen in Figure 3, the three age groups differed in the patterns of their workability. In particular, old employees are characterised by low workability, when they undertake less than average LLL activities. However, they have a high workability, when they undertake more than average LLL activities. The youngest employees, in contrast, have the largest workability among employees that do not undertake much LLL. When young employees do undertake more than average LLL activities, their workability does not increase as much as the workability of older and especially the oldest employees. Increases in workability become larger within older age groups when employees undertake LLL. Figure 4 shows that the oldest age group benefits the most from LLL for vitality. When this age group undertakes much LLL, vitality is much higher. When employees do not undertake many LLL activities, the lowest vitality is found in the age group younger than 45, surprisingly. Undertaking more than average LLL activities increases vitality for this age group to a larger extent than for the middle aged group, though. The level of vitality for the middle aged group while undertaking many LLL activities, is however higher. Vitality levels thus become higher within older age groups when employees undertake LLL. But the effect of LLL is the smallest for the middle aged group. Because the youngest employees are the least vital without undertaking much LLL, the question rises whether the oldest employees are indeed more vital than the employees younger than 45, or whether they are already filtered out in the sample. Sick and fragile employees may already have dropped out of the labour participation process.
For workability, the results are presented in Figure 3.

For vitality, the results are presented in Figure 4.
Discussion and conclusion

The results of this study give insight in the way in which age is related to the employability, workability and vitality of workers, and whether these relationships are influenced by the level of LLL undertaken by workers. Our findings are largely consistent with previous research, although we found a few noticeable deviations. The findings suggest a positive significant relation between age and employees’ employability, but not between age and workability or vitality. This may be explained by what is already put forward in earlier studies: several compensating factors may be at work for older workers, such as autonomy, competence or good social contacts (Van den Berg et al., 2009; Ryan and Frederick, 1997). For the current study, these factors are out of scope. Future research should take them into account and explore their relative value.

We also found that LLL is positively related to the three aspects of sustainable employment: employability, workability, and vitality. We conclude that LLL is valuable for sustainable employment for all three aspects. Note that an important limitation of this study is the cross-sectional design. The cross-sectional design limits the possibility for causal inferences.

Finally, the interaction between age and LLL showed significant effects for employability and workability. No interaction effect between age group and LLL was found for vitality. Because of the cross-sectional design, it is unclear whether age and LLL affect sustainable employment, or that younger employees and employees with a high level of workability, employability and vitality undertake more LLL. The analyses should be replicated with longitudinal data. The limitation of using self-reports needs to be addressed as well. Self-reports of employees may lead to common method variance in the data. Although the use of self-reports implies an inflation of the relationships, Crampton and Wagner (1994) showed that the inflation is smaller than often supposed. Nevertheless, in further studies data should be taken from different sources.

Our findings might be related to the healthy worker effect (McMichael, Spirats & Kupper, 1986). This refers to the circumstance that only the workers having the best health are represented in the study, since those who have diseases were not present at the work place at the time of the study. Employees over 60 that are working must be relatively healthy and active. In other words, the “standard of health” is negatively correlated with age, so when researchers examine older employees, this may lead to bias. The general population includes the “chronic sick, the unemployed and the early retirees, all of whom are known to have a worse than average mortality experience, national mortality will usually be higher than those of an occupational group” (Carpenter, 1987). The question arises whether vitality and workability is health? The World Health Organisation (WHO) has described health as “a state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity” (WHO, 1992). Vitality is closely related to this definition of health.

In all, an important question for the world of work is to what extent HR policies affect (the relevant factors for) the vitality and workability of the workforce. The role of LLL has already been put forward as important for employability (Kluymans & Ott, 1999, Harvey, 2000, De Vries, Gründemann, & Van Vuuren 2001; Berntson et al., 2006, Biesta, 2006, Wittekind, 2007). Based on our initial results, it may be relevant for workability and vitality as well.

Business schools have possibilities to address the challenge of offering LLL. Friga, Bettis and Sullivan (2003) state that LLL actually will become an increasingly important issue in the 21st century. Over the past two decades, business schools desire to serve the corporate markets through specialized part-time programs and executive education. But in the near future, business schools will have to consider the future demands of these markets. “New markets including global corporations, other universities, and the general public business schools need to rethink the repurchase intentions of such buyers, as there is a gradual paradigm shift towards LLL. In addition to serving alumni, business schools should consider offering more products to non business school students and graduates from other programs in their universities” (Friga, Bettis & Sullivan, 2003).

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University alumni feedback on employability skills development – what’s done well and not so well?

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Abstract: There is continued concern from governments and business that universities need to do more to provide students with the skills and competencies to be able to succeed in the workplace. Hitherto much of this evidence comes from representatives of the business community themselves. This paper explores the experiences of alumni from a university in the UK, ex-students who have graduated from university and have been in employment for up to two years, to review their feedback with respect to the employability skills they developed at university; the employability skills they required/are valued in the workplace; the overlaps and gaps between the above two categories. A survey plus interview methodology was used to obtain data. The results offer support for the endeavours universities are making with respect to the employability agenda and provide recommendations for both more and less emphasis being placed on specific skills and attribute developments within HEIs.

Introduction
Higher Education Institutions (HEIs) across the globe are increasingly challenged by civil society to make clear their contribution to economic and social progress within the context of globalisation. One specific aspect of this general expectation relates to the preparation of graduates for the world of work so they are equipped to add value to organisational practices and drive innovation. In the UK over the last 10 years or so there has been an intense debate concerning the notion of employability in higher education, ‘what it is and what it is not’ (Yorke, 2006). More recently, in 2010 the Higher Education Funding Council for England required universities to publish their approach to developing employability on the Unistats website (http://unistats.direct.gov.uk/englishIndex.do?t=20140205113858617) so that prospective students can reflect on this when making their choice of institution, and by August 2012 HEFCE requires all universities to publish a set of information for all courses (a Key Information Statement) which includes graduate employment as a measure of employability (% of students in graduate level occupations 6 months after graduating). Government policy in the UK has then directed universities to embed employability within their provision, to evidence the impact of this via a measure of graduate level employment, and to make this information available to prospective students as part of the information set available to inform the decision of the choice of institution. A key question then for universities is which employability skills will form part of the curriculum to meet the expectations of employers so that graduates can be successful in their chosen careers.

Mapping the employability landscape
Contributions to the debate surrounding employability in higher education in the UK have been made by educationists, researchers and employer groups. The following discussion provides examples of findings from all three of these stakeholder perspectives. An early evaluation of the notion of employability by the Pedagogy for Employability Group in the UK (2006) identified a list of “what employers are looking for” in graduates:

- imagination/creativity
- adaptability/flexibility
- willingness to learn
- independent working/autonomy
- working in a team
- ability to manage others
- ability to work under pressure
- good oral communication
- communication in writing for varied purposes/audiences
- numeracy
- attention to detail
- time management
- assumption or responsibility and for making decisions
The USEM model (Understanding, Skilful Practices, Efficacy Beliefs and Metacognition) was adopted as an appropriate heuristic in this context (Yorke, 2006). Other academic research has generated similar findings, albeit using different terminology. Evers, Rush and Berdrow (1998) in an influential book reviewed the research on companies and graduates, and produced a framework which includes four skill combinations most desired by employers:

- Managing Self
- Communicating
- Managing people and tasks
- Mobilising innovation and change

These incorporate both cognitive and affective outcomes. Many key skills are subsumed within these base competencies, although IT and numeracy skills do not appear to feature specifically. A large scale empirical study by Purcell and Elias (2004) evaluated the experience of people who had graduated in 1995, seven years into their careers. One aspect of this study focused upon the skills required in the “current job” and these were, in order of importance:

- spoken communication
- ability to work in teams
- problem solving skills
- leadership skills
- numeracy skills
- creativity
- advanced IT skills

An insightful finding from their research indicates:
“...revealed that graduate employment tends to require some combination of expertise deriving from higher education, and the ability to demonstrate strategic/managerial skills or high level interactive skills.” (Elisa and Purcell, 2004, p. 9 of short report).

A recent UK employer’s perspective on this issue is provided by the CBI (2010) which defines desirable employability skills and attributes as:

- **Self management** - accept responsibility, flexibility, resilience, self-starting, appropriate assertiveness, time management, readiness to improve own performance based on feedback/reflection

- **Team working** - respecting others, co-operating, negotiating/persuading, contributing to discussions, awareness of inter-dependence of others

- **Business and customer awareness** - basic understanding of business drivers for success including importance of innovation, taking calculated risk and profit, customer satisfaction

- **Problem solving** - analysing facts and situations and applying creative thinking to develop solutions

- **Communication and literacy** - ability to produce clear, structured written work and oral literacy

- **Application of numeracy** - manipulation of numbers, general mathematical awareness and its application in practical contexts

- **Application of IT** - basic IT skills, including familiarity with word processing, spreadsheets, file management and use of internet
Research by Archer and Davidson (2008), having surveyed the skills employers look for when employing graduates, investigated ‘satisfaction gaps’ i.e. those skills that appear to be most lacking at the recruitment and selection stage. A summary table (3) from their publication appears below:

### Table 3: Largest importance-satisfaction gaps in capabilities of new graduates:

<table>
<thead>
<tr>
<th></th>
<th>Importance Rank</th>
<th>Satisfaction Rank</th>
<th>Gap</th>
</tr>
</thead>
<tbody>
<tr>
<td>Commercial awareness</td>
<td>13</td>
<td>33</td>
<td>-20</td>
</tr>
<tr>
<td>Analysis and decision-making skills</td>
<td>10</td>
<td>26</td>
<td>-16</td>
</tr>
<tr>
<td>Communication skills</td>
<td>1</td>
<td>16</td>
<td>-15</td>
</tr>
<tr>
<td>Literacy (good writing skills)</td>
<td>8</td>
<td>23</td>
<td>-15</td>
</tr>
<tr>
<td>Passion</td>
<td>12</td>
<td>25</td>
<td>-13</td>
</tr>
<tr>
<td>Relevant work experience</td>
<td>17</td>
<td>30</td>
<td>-13</td>
</tr>
<tr>
<td>Planning and organisational skills</td>
<td>7</td>
<td>17</td>
<td>-10</td>
</tr>
<tr>
<td>Confidence</td>
<td>5</td>
<td>13</td>
<td>-8</td>
</tr>
<tr>
<td>Personal development skills</td>
<td>21</td>
<td>28</td>
<td>-7</td>
</tr>
</tbody>
</table>

Source: Archer and Davidson (2008)

Many universities have drawn upon this body of research to develop and implement policy to foster and promote student employability (Butcher et al, 2011). For example, Sheffield Hallam University, UK, has had an Employability Framework since 2004 which provides guidance to course planners on the employability skills and attributes to embed in the curriculum and how to facilitate and foster these via appropriate pedagogy. And more recently, as mentioned previously, it is now a requirement in the UK that HEIs publish their approach to developing employability skills via an institutional Employability Statement. However, there is little evidence that HEIs have evaluated the effectiveness of their approaches to employability via systematic feedback from alumni on the skills and attributes they have actually developed whilst studying, and hence any fine grained analyses on the effectiveness of the university sector on the whole in this context. It is this issue which provides the rationale for the research reported below.

### Research findings

Research was undertaken during 2009 by Ester Ehiyazaryan, Nicola Barraclough and Joanne Luhrs, researchers in the Sheffield Hallam University Centre for Excellence for Employability (the current author was Director of the Centre between 2005-10), with alumni who had graduated from the university in various disciplines in 2006 and 2007, and the data below is taken from their internal report. The population surveyed was all students who graduated in these years and who were enrolled on the university’s alumni web site. Out of several hundred possible responses, 168 responses to the survey were actually received. No statistical significance can therefore be inferred from the data presented below, which is presented in an impressionistic vein. The research questions that guided the inquiry were:

- “To what extent do alumni perceive that their university experience has prepared them to gain employment; how has it enhanced their employability?”
- “To what extent did their university experience prepare graduates for performing in the world of work?”

The research method used was a mixed approach involving quantitative and qualitative methods: the survey instrument was followed by a number of case study interviews (open ended questions via telephone interviews); 13 telephone interviews were undertaken. Organisationally the university is divided into four faculties: the Sheffield Business School, faculty of Arts, Computing, Engineering and Sciences, faculty of Development and Society, and the faculty of Health and Wellbeing. The pattern of survey responses by faculty is illustrated below.
The age distribution of survey respondents is illustrated below.

The survey instrument questioned respondents as to where they perceived employability skills and competencies to be learnt best: in an academic environment, in a work environment, or equally in both. The results are summarised below:

Table 1: Where do graduates perceive skills to be learnt best?

<table>
<thead>
<tr>
<th></th>
<th>Academic environment</th>
<th>Work environment</th>
<th>Could be learnt equally well in either</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adaptability / flexibility</td>
<td>5 (3%)</td>
<td>80 (48%)</td>
<td>78 (46%)</td>
</tr>
<tr>
<td>An interest in life-long learning</td>
<td>80 (48%)</td>
<td>10 (6%)</td>
<td>75 (45%)</td>
</tr>
<tr>
<td>Imagination / creativity</td>
<td>44 (26%)</td>
<td>14 (8%)</td>
<td>107 (64%)</td>
</tr>
<tr>
<td>Independent working / autonomy</td>
<td>33 (20%)</td>
<td>37 (22%)</td>
<td>97 (58%)</td>
</tr>
<tr>
<td>Working in a team</td>
<td>7 (4%)</td>
<td>61 (36%)</td>
<td>100 (60%)</td>
</tr>
<tr>
<td>Managing others</td>
<td>5 (3%)</td>
<td>124 (74%)</td>
<td>36 (21%)</td>
</tr>
<tr>
<td>Working under pressure</td>
<td>16 (10%)</td>
<td>38 (23%)</td>
<td>114 (68%)</td>
</tr>
</tbody>
</table>
Participants felt that eleven of the nineteen skills and attributes could be learnt equally well in either environment. Only two skills were identified as being best learnt in a work environment: these were adaptability/flexibility and managing others. The following skills were perceived to be best learnt in an academic environment: lifelong learning; written communication skills; numeracy; taking responsibility for your learning; presentation skills; and information gathering skills. The survey questioned alumni about the skills and attributes which graduates would have benefited from more guidance on at university. The results are tabled below.

Table 2: Skills and attributes which alumni would have liked more opportunities to develop

<table>
<thead>
<tr>
<th>Skill/Attribute</th>
<th>Number of respondents</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Managing others</td>
<td>84</td>
<td>50.0%</td>
</tr>
<tr>
<td>Using new technologies</td>
<td>60</td>
<td>35.7%</td>
</tr>
<tr>
<td>Presentation skills</td>
<td>55</td>
<td>32.7%</td>
</tr>
<tr>
<td>Oral communication skills</td>
<td>46</td>
<td>27.4%</td>
</tr>
<tr>
<td>Decision making</td>
<td>43</td>
<td>25.6%</td>
</tr>
<tr>
<td>Time management</td>
<td>40</td>
<td>23.8%</td>
</tr>
<tr>
<td>Information gathering skills</td>
<td>38</td>
<td>22.6%</td>
</tr>
<tr>
<td>An interest in life-long learning</td>
<td>37</td>
<td>22.0%</td>
</tr>
<tr>
<td>Working under pressure</td>
<td>37</td>
<td>22.0%</td>
</tr>
<tr>
<td>Planning</td>
<td>35</td>
<td>20.8%</td>
</tr>
<tr>
<td>Imagination / creativity</td>
<td>34</td>
<td>20.2%</td>
</tr>
<tr>
<td>Written communication skills</td>
<td>31</td>
<td>18.5%</td>
</tr>
<tr>
<td>Taking responsibility for your learning</td>
<td>31</td>
<td>18.5%</td>
</tr>
<tr>
<td>Problem-solving</td>
<td>30</td>
<td>17.9%</td>
</tr>
<tr>
<td>Adaptability / flexibility</td>
<td>29</td>
<td>17.3%</td>
</tr>
</tbody>
</table>
The suggested focus for additional emphasis in courses as indicated by the top five responses was **managing others, using new technologies, presentation skills, oral communication skills and decision-making**. Given the extent to which the use of IT and the development of communication skills are embedded within degree courses, aspects of these findings could be of surprise to those working in HE. Alumni were asked about the extent to which they felt prepared to enter the labour market via the development of their career management skills (CMS) whilst at university (Table 3) and the aspects of CMS they would have liked more emphasis upon/preparation in (Table 4). The key CMS skills are defined as self-awareness, opportunity awareness, action planning and job seeking (AGCAS, 2006).

### Table 3: Career management skills - how prepared did graduates feel?

<table>
<thead>
<tr>
<th></th>
<th>Not at all prepared</th>
<th>Not very prepared</th>
<th>Neither / nor</th>
<th>Quite prepared</th>
<th>Fully prepared</th>
<th>Don't know / not applicable</th>
</tr>
</thead>
<tbody>
<tr>
<td>The skills for CV writing</td>
<td>27 (16%)</td>
<td>30 (18%)</td>
<td>27 (16%)</td>
<td>52 (31%)</td>
<td>23 (14%)</td>
<td>9 (5%)</td>
</tr>
<tr>
<td>The challenges of finding a job</td>
<td>25 (15%)</td>
<td>41 (24%)</td>
<td>25 (15%)</td>
<td>42 (25%)</td>
<td>21 (13%)</td>
<td>13 (8%)</td>
</tr>
<tr>
<td>The skills needed in a job interview</td>
<td>26 (16%)</td>
<td>33 (20%)</td>
<td>34 (20%)</td>
<td>57 (34%)</td>
<td>10 (6%)</td>
<td>8 (5%)</td>
</tr>
<tr>
<td>The skills required to do your job</td>
<td>7 (4%)</td>
<td>18 (11%)</td>
<td>23 (14%)</td>
<td>84 (50%)</td>
<td>32 (19%)</td>
<td>4 (2%)</td>
</tr>
</tbody>
</table>

With respect to CV writing 75 respondents indicated they felt quite or fully prepared, compared with 57 who felt unprepared; a further 27 respondents answered "neither/nor." 67 respondents felt quite or fully prepared in terms of the skills needed for a job interview, compared with 59 who were not at all prepared or not very prepared, one-fifth of respondents (34 responses) replied "neither/nor. Graduates responded positively regarding the skills required for a job, with 116 respondents (69%) stating they felt quite or fully prepared. A considerably larger proportion of alumni felt prepared in the skills required for a job than felt unprepared. An illustrative quote from one of the telephone interviews provides a flavour of this 'confidence':

"…my course in particular was quite vocational in that it was targeted for, you know to go into business analysis and pretty much systems analysis, pretty much straight away, so I feel that the module and the way the coursework and the way the modules were structured they did give a realistic view of what it would be like in business… and all the coursework was fairly similar to the type of tasks you have in day to day business, which is always very useful."

### Table 4: Which aspects of CMS would alumni have liked more assistance in?

<table>
<thead>
<tr>
<th></th>
<th>Number of respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Identifying opportunities in the graduate job market</td>
<td>100 (60%)</td>
</tr>
<tr>
<td>Researching careers and employers</td>
<td>95 (57%)</td>
</tr>
</tbody>
</table>
Table 4 suggests a considerable desire to have left university with enhanced CMS. The aspect of CMS which most respondents would have liked more assistance in was "identifying opportunities in the graduate job market" (100 respondents/60%). The second most frequently selected option was "researching careers and employers" (95 respondents/57%). 93 respondents selected "understanding what employers want from interviews" and 92 identified "understanding different routes into employment".

Discussion
With respect to the question concerning whether employability skills are better learnt in university or in the workplace, the findings from this case study institution suggest that universities that have a policy commitment to embedding employability in course provision should have confidence in their ability to develop many of the desired skills and attributes within their curriculum. The results also suggest that HEIs could focus on a couple of skills/attributes that are deemed relevant in the workplace but are perceived as difficult to develop in a purely educational context: adaptability/flexibility and managing others. The key question in this context is how HEIs could actually do this? The use and relevance of work-based learning (WBL) would be one avenue to pursue, given the learning outcomes associated with this form of pedagogy. The literature on WBL provides significant evidence of the role of WBL in developing personal, tacit, performative, situation-based and collaborative knowledge and skills (Bailey et al, 2004, Raelin, 2008, Margaryan, 2008). As WBL is experiential in nature, it can offer the opportunity for 'reflection-in-action' (Schon, 1983) thereby facilitating adaptability and flexibility attributes. And given that WBL is often situated within a community of practice (Wenger, 2009) it can also provide contexts for an individual to reflect on their own agency within any collective endeavour and their own ability to achieve as part of and through ‘others’. By embracing this form of learning HEIs could make useful progress to further support their learners in these aspects of employability.

An interesting aspect of the findings is the desire expressed for an increased emphasis upon the development of specific skills and attributes (managing others, using new technologies, communication skills and decision-making) and whether the HE curriculum can accommodate more of these elements. There are two aspects for consideration here: whether or not universities have space within the curriculum to re-balance in favour of the above, and whether they can forge creative pedagogies to facilitate these developments. Given that curriculum change involves professional and political negotiation of the curriculum (Becher and Towler, 2001) but also that there is abundant evidence of HEIs being able to generate creative approaches to learning and teaching, it would appear that the former would be the key issue in any change process i.e. the need to build a consensus around the desirability of curriculum change. Amongst the different approaches to curriculum change that are available to HEIs (see, for example, Clark, 2004 and Marshall, 2007), the recent CETLs initiative in the UK (Centres for Excellence in Teaching and Learning, 2005-10) provides some useful evidence and findings with respect both what can be achieved and how in terms of fostering student employability (Butcher et al, 2011).

As suggested above, the results are testimony to the possibilities of the workplace as a space for learning (WBL). Many courses in HEIs take advantage of this possibility through the mechanisms of internships or placements on sandwich courses (Cooper et al, 2010). The implication is that HEIs should attempt to further increase such provision. Simultaneously, it would be useful for HEIs to adopt a more flexible and expansive approach to the integration of WBL as part of the curriculum: e.g. through short internships, consultancy projects for employers, the accreditation of skills developed in part-time and voluntary work which takes place concurrently with a university education. The questions HEIs could ask

| Understanding what employers want from interviews | 93 (55%) |
| Understanding different routes into employment | 92 (55%) |
| Tailoring your CV to different roles | 91 (54%) |
| Preparing for an interview | 83 (49%) |
| Deciding what to include in a covering letter | 79 (47%) |
| Deciding what to include in a CV | 77 (46%) |
| No reply | 12 (7%) |
themselves therefore would be ‘placement, yes, but is enough being done to build learning from other work-based experiences into the curriculum and encourage students to recognise a wider range of transferable skills? What more can be done?’ Laughton (2010) provides an example of one creative approach in this context.

Finally, the survey responses indicated that alumni felt they had the skills to be successful in the early stages of their careers, but that they were less confident when it came to the knowledge and skills that would enable them to successfully enter the world of work i.e. job search skills, identifying career opportunities and those associated with the application and recruitment and selection process. Historically, many HEIs have focused this kind of activity in central Careers Departments. However, it could be argued that a new approach is required, given the resources required to scale-up the existing approach to the potential number of learners who require and would benefit from this type of support. The challenge in this context is to embed and fuse a full range of career management skills in the subject-based curriculum, to ensure that all learners have the opportunity to develop a comprehensive range of CMSs and are provided with a ‘spring board into work’. Responding to this challenge could involve lecturers and tutors delivering this kind of content alongside their traditional subject and disciplinary-based curriculum, perhaps presenting a further challenge as well as an opportunity.

Conclusion
This paper has presented the findings of a survey of university alumni and describes the extent to which a post-1992 university in the UK with a vocational mission and explicit employability policy equips graduates with the skills and attributes deemed important and useful in the workplace. It therefore provides a case study of both the limitations and achievements in this respect and adds to both the evidence base and the debate concerning the contribution of HEIs to the knowledge economy. Further work with alumni could focus on similarities and differences of responses at the level of subject and occupational sector, and such findings would enable HEIs to refine course curricula so as to incorporate this type of feedback within course design. This would allow HEIs to demonstrate their responsiveness to both government policy and engagement with employer perspectives. Furthermore, it is clear that with the increasing cost of higher education for students, a development which is taking place within the marketisation of higher education generally, there will be pressure on universities to demonstrate how they provide personal development for individuals that both creates value for employing organisations and bestows value upon those in employment. Responding to the findings of employability research has, perhaps, never been more timely.

References
Assessing Economic Competencies

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For the purpose of evaluating educational systems standardized large scale assessments that allow for testing large numbers of students under unchanging conditions are essential. But the areas of testing have so far primarily been focused on the domains of mathematics, language and sciences. This contribution shows a new, innovative method for assessing economic competencies. Taking an in-depth synthesis of the definition of competency proposed by Weinert (2001) as a starting point, we present a new model of economic competency. This model allows for an empirical testing of economic competency that we are currently undertaking in the ECOS (Economic Competencies Study) project with N>1000 8th grade students in German schools.

To derive our theoretical model of economic competency we refer to the research on expertise (see Renkl 1996; Schneider 1997; Ericsson, Charness, Feltovich, Hoffmann 2006) that shows a sophisticated structure of different knowledge dimensions (Bransford, Brown, Cocking 2002) in the culturally relevant techniques of reading, writing and calculating. Achtenhagen and Winther (2009) speak of "economic literacy" and "economic numeracy". We strongly believe that the distinction of verbal and mathematical approaches also has a non-negligible impact on economic competency assessment because the area of economic thinking is typically orientated on both "worlds", the verbal and the mathematical one. If one accepts that verbal and mathematical abilities do somehow belong to the domain of economic competencies, the interesting question arises of how this could specifically be the case. Are verbal and mathematical competencies domain-specific? In the sense that they are originally attributable to the psychological construct of economic competency? Or are they only domain-related psychological constructs of their own that appear together with economic competency? To put it differently, one could ask if an economic competency could somehow exist without mathematical and verbal elements?

To the best of the authors' knowledge there has not been any study so far that deals with the relation of mathematical, verbal and economic competency. In the ECOS project we have in a first approach differentiated between predominantly verbally and predominantly mathematically oriented economic contexts and related competencies at the highest level of the competency definition. Thus, in our model we understand economic competency as the following:

Economic competency can be defined as the ability in verbally and mathematically orientated situations, roles and contexts to
1. recognise economic questions,
2. describe economic phenomena and arrive at economic conclusions,
3. apply economic knowledge in different situative actions,
4. occupy oneself with economic thoughts and ideas and deal with them in a way that is adequate to all current and future tasks of one’s life as constructive, dedicated and reflective citizen along with the related motivational, volitional and social dispositions and abilities to make successful and responsible use of the obtained problem solutions in variable situations.

Part (1) and (2) of this definition refer to the cognitive construct of knowledge-based competency in the sense of Winther and Achtenhagen (2008, 2009, 2010) such that an understanding of economic relations and issues is in focus. Part (3) and (4) of the definition go back to students’ action-based competencies, i.e. their actions in concrete economic situations and roles shall be modelled.

Typically any competence model needs a concrete operationalisation to be testable. In the ECOS project this operationalisation was done by identifying seven relevant dimensions of measurement that led in a two-step process from 500 “question ideas” to 181 test questions to 78 final items in the assessment. Specifically, the dimensions are:
1. content-related dimension
2. requirement dimension
3. aspects of actions
4. problem solving
5. situations
6. roles
(7) task design

The first and content dimension of the Siegen model of economic competency is focused on a few core ideas that can represent the entire area of economic understanding. Such a concept of “big ideas” was developed in the OECD PISA studies and means – roughly speaking – that some content areas represent the whole content of the domain. To derive these big ideas for the domain of economic competency we conducted a content analysis of 50 contemporary school books on economics. The most frequently mentioned topics that we consider “big ideas” were by far money, market and labour. These topics were also seen as relevant and content-valid in expert interviews with economic teachers and can – following these experts – stand as pars pro toto for the domain of economics. While the second dimension requires three different levels of difficulty, the third dimension that we describe as aspects of actions has three different cognitive task types that are “access informations”, “organise, structure, model” and “assess, evaluate”. In the fourth dimension we refer to Weinert’s (2001) understanding of competence that - without further explaining the details here – leads to a certain kind of test questions where new economic problems are solved with the help of prior economic knowledge, instead of only asking for prior knowledge (e. g. “When did the Second World War take place?”). Fifth, our test questions are differentiated into to following four “situations”, that 8th graders are or soon will be facing in reality: personal situations, vocational or professional situations, societal situations, scientific situations. In these situations students take different roles that are consumer, employee, employer and economic citizen. Last, test questions should have different formats, such as multiple choice, single choice, calculation and open answer format. In how far this differentiation represents the “real” underlying psychological constructs in the students’ “heads” will hopefully become more clear from the study data that we are currently gathering. Further evidence will then be derived through testing in the areas of global intelligence (general fluid ability) and mathematical and verbal intelligence. These will be tested using the CFT-20 (Weiß 2006, 2007). The CFT-20 is the German version of the Culture Fair Intelligence Test-Scale 2 of Cattell (1949, 1973).

The statistical analysis of the results will be carried out by using methods of the psychometric test-theory or Item-Response-Theory (originally Georg Rasch, 1960; Fischer and Molenaar, 1995; Davier and Carstensen, 2006; Rost, 2006) with the help of the programme Conquest 2.0 (Wu, Adams, Wilson, Haldane, 2007).
An educationally validated Restaurant Simulation will have a major impact on 21st century foodservice education!

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Abstract: This paper evaluates the educational validity of the simulation for profitable restaurant operations (PRO Simulation) using the benchmarks of Representation, Content and Implementation as recommended by Stainton, Johnson and Borodzicz (2010) To assess its educational validity the results of several post course completion surveys of simulation participants were used. The results suggest that the simulation seems to have internal educational validity but, similar to the experience of Stainton et al. (2010) has not been able to demonstrate that the learning derived from the restaurant simulation game has contributed to managerial success within the real business world—although strong evidence indicates that effective managerial learning has been achieved. This is based on the anecdotal feedback received from the restaurant companies whose managers participated in the two seminars that their decision making ability and understanding of restaurant business principles were greatly improved.

In the twenty first century developments in computer hardware and software have led to improvements in simulations as an experiential learning tool in education. According to Stainton, Johnson and Borodzicz (2010) “The educational validity of a business gaming simulation will greatly depend on the quality of model design and implementation” (p.717). They also suggest that educational validity studies of business gaming simulations to date have been inconclusive. They have found that these studies focused on the weaknesses of business gaming simulations and are often regarded as an educational medium that has limitations concerning learning effectiveness.

The current literature suggest that for a total enterprise simulation (TES) to be an effective learning tool it must be internally valid - students/participants achieving desired learning; externally valid - the generalization of learning applied to the real world and the impact of the simulation experience on the students/participant’s career (Dickinson & Faria, 1994; Dickinson, Whiteley, & Faria, 1990; Faria & Wellington, 2004b; Whiteley, Ledue, & Dawson, 2004; Wolfe & Jackson, 1989; Norris & Snyder, 1980; Wolfe & Roberts, 1986, 1993).

Stainton et al. (2010) believe no attempts have been made to provide guidelines for assessing validity in terms of building, implementing and validating such simulations. Their paper combined literature on learning, simulation design and research methods to formulate a methodology that assesses the educational validity of TES. They proposed a framework as a foundation for educational validity studies to assist simulation designers to implement this powerful educational tool. The framework was based on three propositions that student/participants can:

(i) learn business management from the TES,
(ii) relate the business simulation to the real-world business environment
(iii) understand the real-world business issues from the simulation.

The total enterprise PRO Simulation was developed to allow students and practitioners to operate a restaurant in real time in competition with other restaurants networked together. The use of simulations, such as PRO Simulation, has increased and could become the norm as educational institutions and foodservice/restaurant corporations see the value of the applied understanding this experiential learning tool provides.

The designers of the simulation for profitable restaurant operations - PRO Simulation, have taken the Stainton et al. (2010) framework and attempted to assess its educational validity using the results of several post course completion surveys of simulation participants for their quantitative measures.

In evaluating the educational validity of the simulation for profitable restaurant operations and following the model laid out by Stainton et al. (2010) there are three major areas against which the simulation will be benchmarked:  

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**Representation**
The simulation needs to provide a realistic representation of the real world business environment, or at least the appearance of realism. It should be complex and challenging but not confusing and should be competitive and strategic so that participants are motivated by the need for achievement.

**Content**
The simulation should be broad enough to make the exercise stimulating with topics of learning meaningful and relevant so that the participants are motivated to participate. The content should be multifaceted and able to achieve several learning objectives as well as aim to expand the existing learning of participants with a level of depth that has an impact on participants, satisfying their need for achievement.

**Implementation**
The simulation should be performance related so that participants are accountable for their decision making. The learning process should be behavioural through “learning by doing” as well as experiential to enable learning through reflection on theory. The environment should be dynamic so that ongoing problems need to be solved.

**Representation**
Stainton et al. (2010) believe that “…representational validity is problematic as simulations are not an accurate representation of the real world - which might affect quality of learning and hence educational validity” (p.707). They also suggest that the program design to assess inputs and derive outputs must possess a level of realism necessary to achieve required learning. Keys and Wolfe, (1990) support the real world notion that the theoretical sophistication contained in the simulation’s algorithms and the degree of functional breadth or environmental scope should have an effect on the learning results derived from business simulation (game) play. Stainton et al. (2010) suggest that representational validity must also encompass the program design and take into consideration the competence and biases of the designer(s), as well as how effectively the facilitators assist in the transfer of knowledge to simulation participants.

The academic and restaurant industry expertise of the designers, who are also facilitators, was instrumental and significant in the building of this total enterprise simulation. It took six years to build and has been operational since the fall of 2008. It deals with the realistic representation of the entire organization, providing a balanced number of decision variables in marketing, production (operations) and finance, and thus requires the strategic integration of several subunits for organizational performance.

It was designed to replicate the operation of a restaurant over a six year time period. By networking up to ten teams in one of five scenario cities it focuses on the competitive nature of the restaurant business, emphasizing profitability. A year may take from 25 minutes to 2 hours to process and teams (usually groups of 2 or 3) operate the restaurant in competition with the computer and the other participating teams. This virtual restaurant simulation provides the illusion of running a real restaurant with full menu and operating control, as well as complete integrated results and financial statement output.

**Content**
Stainton et al. (2010) believe the content should be multifaceted and able to achieve several learning objectives as well as aim to expand the existing learning of participants with a level of depth that has an impact on them, satisfying their need for achievement.

The content of PRO simulation was developed to teach business principles of finance, accounting, marketing, human resources, strategic thinking, strategic business planning, quality service, restaurant positioning and pricing using analytical tools such as cost-volume-profit analysis and menu engineering.

The TES can be static or dynamic and encompasses three restaurant segments down-market, mid-market and upscale-market. For each segment profiles, based on existing restaurant industry standards, formed the rationale for the restaurant model in each segment. The data developed for each restaurant model has been extrapolated into a total market potential. Competing teams are positioned in the appropriate market segment based on their inputs. Market share is determined by a series of component factors processed identically and simultaneously for each of the three market models. These components are: food value - a function of menu price and food cost; beverage value - a function of menu price and beverage cost; service - a function of staff quantity and staff quality; atmosphere - a function of direct
operating expenses, music & entertainment and repairs & maintenance; marketing - a function of selling & promotion and advertising; asset condition - a function of upgrade & replacement of assets.

Once the market share has been determined it is automatically adjusted by relating the team’s performance against overall market average performance in the areas of food, beverage & service as a group and in the area of marketing & atmosphere as a group. Reward or penalty points are assessed to either increase or decrease the market share attained. This will constitute the final market share. This market share is subject to an optional facilitator intervention to increase or decrease each factor. This influence will be based on the facilitator’s assessment of how the simulation is proceeding and on how each restaurant team is functioning. An increase or decrease in the market share will either level the playing field, or give a struggling team a boost, in the interests of assisting in the learning process.

The content developed as simulation input, throughput and output emphasizes the application of concepts in an “action-oriented” approach. Participants/students have to make decisions over a number of iterations composed of simulated weeks, months and years. They analyze situations, identify problems and opportunities, make decisions and implement them. The rapid feedback on the value of these decisions, together with the motivating nature of the competitive situation, provides the context and the means for an effective learning experience. The objective of the simulation’s content is to develop skills to effectively apply concepts through making decisions and taking appropriate courses of action. It complements other pedagogical approaches that focus simply on the transmission of knowledge as an objective (Neider, 1981). The simulation therefore provides a natural setting to analyze decision-making processes.

The “Restaurant Data Dashboard” is an evaluating device that rates and ranks the competing restaurants at the end of each year. Comparable to the balanced scorecard approach of Kaplan & Norton (1992), it provides a means to heighten the competitive element in the simulation and quantify restaurant team’s and participant’s performance.

Implementation
Stainton et al. (2010) highlight “the importance of facilitating the experiential learning process to achieve learning effectiveness” (p.708). They believe the process to be an active and ongoing process of interpreting experiences and one which not only requires facilitation through coaching support but also requires the learner to be motivated to actively participate. Further, Stretch (as cited in Stainton et al., 2010) suggests that the learner in a complex simulation environment requires the support of an expert at the appropriate time within the learning process to provide coaching and to facilitate reflection. Stainton et al. (2010) believe effective learning requires sufficient time to reflect on engaging experiences so that learning can be constructed and this may require the assistance of a facilitator to provide feedback and debriefings. In this environment the importance of the facilitator (teacher/instructor) cannot be over-estimated. Keys (1977, 1989) proposes that the facilitator is the “manager of learning” and should be well educated in content; know how to create a learning environment and be perceptive in drawing out feedback information to clarify any misunderstandings of the learner and to validate content.

The Educational Validity of the Simulation for Profitable Restaurant Operations – PRO Simulation
The Stainton et al. (2010) statement … “The educational validity of a business gaming simulation will greatly depend on the quality of model design and implementation” (p.717) was taken as a starting point to evaluate and assess the validity of the Simulation for Profitable Restaurant Operations. A matrix was created see Tables I and II in which the benchmarks outlined by Stainton et al. (2010) were summarised.

Within this framework the simulation was evaluated using the participant/student feedback from the delivery of the simulation in two distinct environments. The first was a classroom setting where implementation covered five years in the life of the simulated restaurants and was run over a six week time period as part of a final semester capstone course in the Ryerson University four year Bachelor of Commerce degree program. Two sections of students of 31 and 25 respectively participated in the evaluation. The second was a seminar setting where implementation of the simulation covered five years in the life of the simulated restaurants and was run over a three day time period. Two seminars with 16 and 15 managerial and supervisory staff respectively from two different full service restaurant chains participated in the evaluation.
Table I shows a completed matrix for the classroom simulations while Table II shows a completed matrix for the seminar simulations. The feedback from participants in both simulations came from two similar but different questionnaires completed at the conclusion of each simulation.

**PRO Simulation in the Classroom**

The classroom questionnaire was comprised of twenty questions (Table 1). These questions were allocated to one or all of the three areas of evaluation – Representation, Content and Implementation. It should be noted that the questions were developed with the understanding that the students had a good understanding of the hospitality industry in general, not necessarily of restaurant operations in particular, and that the simulation objective was to introduce them to the managerial skills necessary in the decision making process to understand the cause and effect of their decisions.

On a Likert Scale from 1 (strongly disagree) to 10 (strongly agree) the simulation scored 7.3 in the **Representation** category (provides a realistic representation of the real world business environment, should be complex and challenging but not confusing and should be competitive and strategic so that participants are motivated by the need for achievement). In the **Content** category (the simulation should be broad enough to be stimulating, topics should be meaningful and relevant motivating participation, and the simulation should be multifaceted to achieve several learning objectives, expand existing learning of participants and satisfy their need for achievement) the simulation scored 7.0. The simulation scored 7.3 in the **Implementation** category (the simulation should be performance related so that participants are accountable for their decision making, The learning process should be behavioural through “learning by doing” as well as experiential to enable learning through reflection on theory. The environment should be dynamic so that ongoing problems need to be solved).

Given the breadth of questions measuring the objectives and educational validity of the simulation the participants indicated that they agreed the simulation met the objectives of teaching business principles of finance (Q,5 7.2), accounting (Q,6 7.2), marketing (Q,7 6.3), human resources (Q,9 6.4), strategic thinking (Q,8 7.3), and quality service (Q,4 6.3), as well as improving their decision making skills (Q,17 7.6) and their ability to relate the results to the real world restaurant business environment (Q,3 6.3). In addition they agreed that their simulation experience has changed their understanding of the factors that contribute to operating a successful restaurant (Q,13 7.3).

**PRO Simulation in the Seminar**

The seminar questionnaire was comprised of thirteen questions (Table II). These questions were allocated to one or all of the three areas of evaluation – Representation, Content and Implementation. It should be noted that the questions were developed with the understanding that the participants had a good understanding of the general operation of a restaurant and that the simulation objective was to further develop their managerial skills in the decision making process to understand the cause and effect of their decisions.

On a Likert Scale from 1 (strongly disagree) to 10 (strongly agree) the simulation scored 9.1 in the **Representation** category; 8.9 in the **Content** category; and 9.0 in the **Implementation** category. The results indicate that the participants more than agree that the simulation met the objectives of teaching finance fundamentals (Q,9 8.7), restaurant positioning (Q,10 8.9), strategic business planning (Q,13 8.9), cost volume profit analysis (Q,11 8.5), and menu engineering (Q,12 8.8) as agreed that the restaurant data dashboard was an effective analytical tool in evaluating performance (Q,6 8.9). In addition they agreed that the simulation provided a dynamic learning experience (Q,2 9.2) in a challenging learning environment (Q,3 9.3) and that the simulation was an effective learning vehicle (Q,5 8.8).
Table I Educational Validity Matrix of Pro Simulation - Classroom

<table>
<thead>
<tr>
<th>Question</th>
<th>Representation</th>
<th>Content</th>
<th>Implementation</th>
<th>Avg. Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. The Simulation provided me with a dynamic learning experience</td>
<td>Y</td>
<td>N</td>
<td>Y</td>
<td>7.8</td>
</tr>
<tr>
<td>2. The Simulation presented a challenging learning environment.</td>
<td>Y</td>
<td>N</td>
<td>Y</td>
<td>7.8</td>
</tr>
<tr>
<td>3. The Simulation presented a realistic model of restaurant operations.</td>
<td>Y</td>
<td>N</td>
<td>Y</td>
<td>6.3</td>
</tr>
<tr>
<td>The Simulation provided a good opportunity to demonstrate my understanding of:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Quality service management principles</td>
<td>N</td>
<td>Y</td>
<td>N</td>
<td>6.3</td>
</tr>
<tr>
<td>5. Financial principles</td>
<td>N</td>
<td>Y</td>
<td>N</td>
<td>7.2</td>
</tr>
<tr>
<td>6. Accounting principles</td>
<td>N</td>
<td>Y</td>
<td>N</td>
<td>7.2</td>
</tr>
<tr>
<td>7. Marketing principles</td>
<td>N</td>
<td>Y</td>
<td>N</td>
<td>6.3</td>
</tr>
<tr>
<td>8. Strategic thinking</td>
<td>N</td>
<td>Y</td>
<td>N</td>
<td>7.3</td>
</tr>
<tr>
<td>9. Human resources principles</td>
<td>N</td>
<td>Y</td>
<td>N</td>
<td>6.4</td>
</tr>
<tr>
<td>10. The “Restaurant Data Dashboard” provided a suitable mechanism for measuring restaurant performance.</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>7.5</td>
</tr>
<tr>
<td>11. The “Restaurant Data Dashboard” successfully linked the concepts of quality service and financial management.</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>7.3</td>
</tr>
<tr>
<td>12. The “hands on” experience provided by the simulation was worthwhile.</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>7.5</td>
</tr>
<tr>
<td>13. The Simulation helped me to understand the factors that contribute to operating a successful restaurant.</td>
<td>N</td>
<td>Y</td>
<td>Y</td>
<td>7.3</td>
</tr>
<tr>
<td>14. The Simulation helped me to understand the conflicting objectives of the restaurant’s stakeholders and shareholders.</td>
<td>N</td>
<td>Y</td>
<td>Y</td>
<td>6.6</td>
</tr>
<tr>
<td>15. I would recommend this Simulation module to other students.</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>7.3</td>
</tr>
<tr>
<td>16. The Simulation required a high degree of personal involvement and commitment in its application.</td>
<td>N</td>
<td>N</td>
<td>Y</td>
<td>7.3</td>
</tr>
<tr>
<td>17. The Simulation provided a good test of my decision making ability in a time constrained environment.</td>
<td>N</td>
<td>N</td>
<td>Y</td>
<td>7.5</td>
</tr>
<tr>
<td>18. The Simulation provided a good test of my problem solving ability in a time constrained environment.</td>
<td>N</td>
<td>N</td>
<td>Y</td>
<td>7.6</td>
</tr>
<tr>
<td>19. The Simulation helped me to appreciate the need for a “balanced approach” to the operation of a restaurant.</td>
<td>N</td>
<td>N</td>
<td>Y</td>
<td>7.5</td>
</tr>
<tr>
<td>20. Overall I am very satisfied with the learning experience provided by the simulation module.</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>7.1</td>
</tr>
<tr>
<td>Average Total Score of Yes Questions (10 point Likert Scale N=56)</td>
<td>7.3</td>
<td>7.0</td>
<td>7.3</td>
<td></td>
</tr>
</tbody>
</table>
Discussion of the Results

Based on Stainton et al. (2010) paper and on related literature it is suggested that the key design aims of a TES should enhance learning effectiveness. In particular Stainton et al. (2010) introduced three key benchmarks of Representation, Content and Implementation that need to be considered in the designing of a computerized simulation. They also suggest that a TES’s aim is to enable participants to implement varied managerial thinking processes within a broad complex business environment. In both areas PRO Simulation has met the criteria. The results demonstrate that PRO Simulation, within the framework of the benchmarks, performed well as an effective learning vehicle, providing a challenging learning environment and a dynamic learning experience.

It has achieved construct validity as learning can be measured by the results obtained from the participant’s decision inputs over a five year period. These inputs are a result of the participant’s reflection upon their decisions obtained from multiple sources of information provided by the simulation especially the “restaurant data dashboard” which rates and ranks performance at the end of each year. The participant’s learning is observed in real time as they discover through their results the cause and effect relationships of their decisions, improving their ability to apply concepts more broadly in their decision making process. This is reinforced at the end of the simulation when the teams must present their business plan and explain the decisions they made. This discussion reflects their discovery of cause and effect as it relates to their restaurant and the competing restaurants in their market place.

This study has shown that the TES PRO Simulation seems to have internal educational validity but, similar to the experience of Stainton et al. (2010) has not been able to demonstrate that the learning derived from the restaurant simulation game has contributed to managerial success within the real business world.
although strong evidence indicates that effective managerial learning has been achieved based on the anecdotal feedback received from the restaurant companies whose managers participated in the two seminars. They suggested that the decision making ability and understanding of restaurant business principles of these participants were greatly improved. It is noteworthy that the results obtained from the seminar surveys are much higher than those obtained from the classroom surveys. In the Representation area 9.1 compared to 7.3; in the Content area 8.9 compared to 7.0 and in the Implementation area 9.0 compared to 7.3. Stainton et al. (2010) recommend “that data sets should comprise motivated and ambitious individuals who possess a desire to learn and to develop their careers and are therefore likely to exert suitable effort both during the simulation exercise and while assisting with the assessment, by applying themselves to the research instruments” (p.716). The fact that the seminar participants were restaurant industry specialists at the managerial level, handpicked by their company, while the classroom participants were taking a mandatory component of their hospitality and tourism management degree, and were not necessarily motivated at the same level towards the restaurant industry, could explain this difference in the survey results.

Conclusion and Further Study
The learning effectiveness of the teaching medium, according to Stainton et al. (2010) may be influenced by the simulation design and the manner in which the simulation is implemented. Since simulations are not an accurate representation of the real world this might affect quality of learning and hence educational validity. For design Stainton et al. (2010) suggest that designers find a balance between complexity and realism such that sufficient complexity for realism is achieved as well as learning. For effective implementation they emphasise the importance of facilitation through coaching support combined with personal motivation of the participants. The designers, who are also facilitators, understand the importance of the coaching support and are working on further developments to enhance the implementation of the simulation.

The primary measure of PRO Simulation’s educational validity is its learning effectiveness. TES must be internally valid with students/participants achieving desired learning and externally valid with generalised learning applied to the real world and its impact on the participants/students. The results from both the classroom and seminar surveys support this learning effectiveness of the PRO simulation. The areas of representation, content and implementation covered by the surveys lead to this conclusion. Surveys are only one of the recommended validation research instruments recommended by Stainton et al. (2010). They suggest construct validity might be achieved by comparing the data sourced from a blend of research instruments, e.g. written reflective accounts, questionnaires, semi structured interviews and direct observations. Future research using a blend of research instruments should further support the educational validity of this simulation vehicle.

References


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Workplace Approaches for Motivating Online Adult Learners

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Abstract: Online and blended learning provide outstanding opportunities for global approaches to
economics and business education. Sophisticated technologies now enable students,
asynchronously, and at their convenience, to utilize digitized primary resources; to disseminate
reflective writing in cyberspace; to cooperate on international projects; and to participate in
authentic learning experiences as they prepare for their careers. Although such courses are ideal
for working adult students, attrition is high. One way to offset this attrition is to better motivate
and engage students. This paper offers suggestions for motivating adult learners using
management approaches adapted from workplace motivational theory and practice.

Introduction

Online education has several advantages for adult learners: it is easy to access and provides a convenient
way to obtain course materials such as texts, homework, and exams. Most online learning environments are
accessible from a standard internet connection and typically require only ordinary home computer system
requirements. An instant and secure transfer of information allows students to work in groups and to
communicate with instructors and classmates. Some online classes also may participate in synchronous chat
sessions on a weekly or even daily basis, thus enhancing the overall learning experience. Online learning is
also effective. Repeated studies of learning outcomes demonstrate no statistical difference in achievement
between distance and onsite delivery, even in highly technical fields such as math and engineering (Davis
and Seigel, 1991; MacGregor, 2002).

Yet, although the efficacy, efficiency, and time management aspects of online learning clearly
appeal to busy adults, attrition rates are high in online courses. MacGregor (2002) notes that “although
online classes maximize convenience and flexibility…high dropout rates are typical” (p.14). The same
phenomenon has been observed in earlier distance delivery formats such as telecourses and audio-
conferencing (Seigel & Davis, 1991; Davis & Seigel, 1991; Davis & Scully, 2002). Of course, not all
students are suited for online learning. Phipps and Merisotis (1999) suggest that research is needed on the
psychological and social attributes of online adult learners. MacGregor (2002) completed a survey of 158
adult students in online Humanities classes, and asked them to complete a personality inventory (16PF, 5th
ed.) which measured them for emotional stability, vigilance, perfectionism, introversion, extroversion,
independence, and self-determination.

According to MacGregor, online students are more introverted and shy, less assertive, better able
to inhibit impulses, and better able to manage their time. Conversely, onsite students were more socially
bold, less accommodating, less able to manage their time and discipline themselves, and more determined
to get their own way. Both groups exhibited similar levels of anxiety. Of course, this study should be
replicated with higher numbers, but it helps to explain the attrition of adult online learners, and certainly
has implications for advising and student support services.

In addressing the motivation of adult students in general it is perhaps beneficial to first consider
how the typical classroom structure differs from the contemporary work environment. Kathy Yamashiro
(2000) has contrasted the ‘traditional’ classroom student experience to what they would normally
experience in their contemporary work environment. For example, in the classroom, the instructor alone
provides the key information and direction. Students follow specific instructions and do only as they are
directed.

Conversely, contemporary workers often need to solicit information and resources from both
supervisors and peers. Whereas the classroom typically encourages students to work individually,
workplace employees often work in groups to solve problems. Co-workers and managers are both primary
resources and collaborative group skills are essential to getting things done.

Students are required to complete assignments that are arbitrarily determined by the instructor, and
to listen and take notes in class. Questions are too often acceptable only to clarify what has been said and
grade performance is determined by the instructor. In contrast, workplace projects are often self initiated
and managed, and rational justifications for alternative methods are acceptable. Timelines for assignments
are often negotiated and set by managers and workers together. In the workplace personal interest,
participation, experimentation and active questioning are major job components. Performance assessments often are qualitative and include input from individual employees, peers, supervisors along with work production.

The following exhibit further illustrates these contrasts:

<table>
<thead>
<tr>
<th><strong>Traditional Classroom</strong></th>
<th><strong>Contemporary Workplace</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Instructor provides information and direction.</td>
<td>Employees need to solicit information and resources from supervisors and peers.</td>
</tr>
<tr>
<td>Students follow instructions and do only as they are instructed.</td>
<td>Projects are self initiated and managed.</td>
</tr>
<tr>
<td>Individual students follow procedures/processes to arrive at the &quot;one&quot; correct answer or solution.</td>
<td>Employees work in groups to solve problems.</td>
</tr>
<tr>
<td>There is one recognized way to do things – the instructor's way.</td>
<td>Rational justifications for method(s) are acceptable.</td>
</tr>
<tr>
<td>Students use books as their primary source for information.</td>
<td>Co-workers and managers are primary resources.</td>
</tr>
<tr>
<td>Students complete assignments as instructed with timelines determined by the instructor.</td>
<td>Timelines are negotiated and set by employees and managers together.</td>
</tr>
<tr>
<td>Grades are determined by the instructor.</td>
<td>Assessments are qualitative and include input from individual employees, peers, supervisors, and work products.</td>
</tr>
<tr>
<td>Students are expected to listen and take notes in class. Questions are acceptable only to clarify what has been said.</td>
<td>Personal interest, participation, experimentation, and active questioning are major job components.</td>
</tr>
<tr>
<td>Group work is considered to be unfair.</td>
<td>Cooperative group skills are essential to getting things done.</td>
</tr>
</tbody>
</table>

Prior research suggests that motivational theory was originally initiated in the workplace. However, based on the chart above, the same circumstances exist in an online learning environment. Students, in comparison to workers, must work both individually and as a team to solve problems, the professor and students with more experience are primary resources, and assessments come from not only the professor but from peers as they respond to each other's forum and group project work.

As such, the authors posit that management approaches and work designs that have been successfully applied to motivate adults in the contemporary workplace may also be applied to adult learners. In the following sections we will discuss two workplace approaches that we believe are particularly relevant for adult learners: Path-Goal Theory and the Job Characteristics Model.

**Path-Goal Theory**

Considering the many demands that compete for the attention of adult students, the design of courses that maximize adult learner motivation and engagement is a challenging task. Adults have many responsibilities that they must balance against the demands of learning. Because of these responsibilities, adult-learners face some unique barriers against participating in learning. Some of these barriers include lack of time, confidence, interest, information, scheduling, transportation, childcare problems, and academic 'red tape', among others.

Clearly, an effective way to motivate adult learners is to enhance their reasons for learning and decrease their barriers. This approach is based on Path-Goal Theory, one of the motivational approaches derived from leadership and management studies in the workplace (Northouse, 2004). In its simplest form, the theory reminds leaders (instructors) that their primary purpose is to guide and coach workers (students) as they move along the path to achieve a goal.

Instructors who learn why their students are enrolled (the motivators) may be able to tap into internal and external motivators that will provide the impetus for exerting the necessary effort to succeed. In addition, learning about the student’s work and life challenges may help the instructor discover the barriers that may keep them from succeeding. Many motivators to learn are vocationally-related. These
may include a requirement for competence or licensing; an expected (or realized) promotion; job enrichment; a need to maintain old skills or learn new ones; a need to adapt to job changes; or the need to learn in order to comply with their organization’s directives. In fact, most adults find major motivators related to the workplace.

In distance learning formats, either online or blended, the opportunities are more limited to directly interact with students in order to discover individual reasons for learning or decrease barriers. In that respect, the issues related to online learning are somewhat similar to those faced today in managing the ‘virtual’ office. The principles may still apply but instructors using these educational formats need to develop creative ways to effectively discover individual student motivators and barriers. The use of discussion boards, student forums, chat rooms, and direct conversations with students are some suggestions for addressing these areas.

**The Job Characteristics Model**

In addition to the Path-Goal approach, another model which could address motivational issues is the Job Characteristics Model. It has its roots in the pioneering works of Herzberg (1966), Turner and Lawrence (1965), Blood and Hulling (1967) and Hulling and Blood (1968), all of whom examined the relationship between certain objective attributes of tasks and employees’ reactions to their work. On the basis of this research, Hackman and Oldham developed the theory that the job itself should be designed to possess fundamental characteristics needed to create conditions for high work motivation, satisfaction, and performance.

Herzberg (1959; 1966) developed a two-factor theory of job satisfaction: "motivation" and "hygiene." According to Herzberg’s theory, if handled properly, hygiene issues cannot motivate workers but can minimize dissatisfaction. Hygiene factors include company policies, supervision, salary, interpersonal relations and working conditions. They are variables related to the worker's environment. By contrast, a worker's job satisfaction is influenced by factors associated with the work itself or by outcomes directly derived from it such as the nature of their jobs, achievement in the work, promotion opportunities, and chances for personal growth and recognition. Because such factors were associated with high levels of job satisfaction, Herzberg, a major researcher, referred to them as ‘motivation factors’.

Instructors can use Herzberg’s two factor model to ensure that students are not dissatisfied with the amount of work, how the grading is distributed, time necessary to complete the course, and how much writing and participation is necessary to be successful in the course. Instructors can begin the course by identifying the necessary skill level, amount of work required, grading criteria, and group work early in the semester to ensure that student’s are not dissatisfied. Once this has been accomplished, the instructor can then move to the motivators which are opportunities to grow and learn, ascertain recognition from peers and the professor, and engage in the work-itself that may become more appealing as the student perceives that the course will help them become more successful in their career.

Hackman and Oldham (1975), building on the Herzberg model, proposed five "core" dimensions for evaluating the immediate work environment. These core dimensions turned out to be associated significantly with job satisfaction and a high sense of workers' motivation. That is, the work environment source consisted of five dimensions, namely those of skill variety, task identity, task significance, autonomy and feedback. Any given job can be analyzed, utilizing these five dimensions for its motivating potential. The job can then be redesigned to eliminate what is bothering the workers.

The Motivation Potential Score (MPS) is the summary of Hackman and Oldham's Job Characteristics Model and measures the overall motivating potential of a job, or job satisfaction. It also identifies which dimensions are most in need of redesign and can be calculated as:

\[ MPS = \frac{(\text{Skill Variety} + \text{Task Identity} + \text{Task Significance})}{3} \times (\text{Autonomy}) \times (\text{Feedback}) \]

Hackman and Oldham's model proposes that attention to these five job design characteristics produce three critical psychological states (experienced meaningfulness of the work, experienced responsibility for outcomes of the work, and knowledge of the actual results of the work activities) which increase the likelihood of positive personal success and work outcomes, especially from employees with a high growth-need strength, including: high internal work motivation, high quality performance, high satisfaction with the work, and low absenteeism and turnover.
The characteristic that has received the most attention in Hackman and Oldham's study is the meaningfulness of the work, i.e., to what extent the individual perceives the work as significant and important. The model asserts that a job will be meaningful to an employee to the extent that it requires a variety of skills, involves the completion of a whole and identifiable piece of work, and has significance for the lives of other people; it will foster feelings of personal responsibility to the degree that it provides the employee autonomy in selecting the methods for carrying out the work; and it furnishes the employee knowledge on which to judge the effects of his or her efforts if it is arranged to allow such feedback.

Job meaningfulness can therefore be defined as the product of three dimensions: skill variety (activities that challenge skills and abilities); task identity (the extent to which the job requires completion of a "whole", identifiable piece of work); task significance (how substantially the job has impacts on other people's lives. A job high in motivating potential must be high on at least one of the three job characteristics that prompt experienced meaningfulness, and high on both autonomy and feedback, to create conditions which foster all three critical psychological states (Hackman & Oldham, 1980, p.81).

Growth-need strength refers to an individual’s desire to be challenged and to grow on the job or one’s need for personal accomplishment, learning, and development on the job (Hackman and Oldham, 1980, p.85). They believe that individuals with strong growth needs will respond more positively to jobs that are high on the core job dimensions because such jobs provide opportunities for professional advancement. On the other hand, individuals with weak growth needs will experience little internal motivation from complex jobs, either because they do not recognize or value, the opportunities present for professional development.

Considering the Task Significance aspect, incorporating appropriate group class work may motivate individuals to work harder as it creates “significance for the lives of other people.” A large body of research suggests it’s best to motivate groups, not individuals. Susan Helper, Morris Kleiner and Yingchun Wang confirm this insight in a working paper for the National Bureau of Economic Research. They compared compensation schemes in different manufacturing settings and found that group incentive pay and hourly pay motivate workers more effectively than individual incentive pay.

Translating the Job Characteristics model from the workplace to online/blended courses can be done by addressing the individual tasks and responsibility of each student and how this individuality is incorporated into a social networking environment. Here are some examples of using the Job Characteristics Model for online learning:

- Spend time reviewing the syllabus and course requirements with each student in a chat session at the beginning of the course.
- Give students a chance to explain a few personal and professional things about themselves. Create the first discussion forum to include what students undergraduate major was, where they work, what they do at work, what they would like to learn from the course, and what they do for fun outside of work.
- Explain the variety of skills necessary to be successful in the course such as writing assignments, short-form exams, term-papers, discussion boards and case study analysis. Online courses should have some sort of conformity so that one course is not that much different in structure. For instance, eight discussion forums, four ten-question exams, one term-paper, and one reflection paper.
- Exams should have implicit instructions such as this: You are charged with completing the examination with three attempts. The highest grade of the three will be your final grade. After the first and second time, the questions will be the same but they will be scrambled so that as you review your answers, you become more familiar with the material.
- Each task has a beginning and an end and a deadline to keep the students focused.
- Students will work primarily alone and at their own pace to create a sense of autonomy. However, there will be several chances for students to collaborate with one another to ensure that a social network is established.
- Feedback will be timely for the students with significant details for development to ensure that students are learning and growing.

**Conclusion**
While many aspects of higher education may not be amenable to change, the innovative nature of adult learning suits it to more experimental approaches. Especially in designing online and blended learning...
formats, faculty should consider incorporating aspects learned from workplace motivation models. These might include: working with students to enhance their goals, strengthening effort-performance-reward expectancies, clarifying performance-reward linkages, providing salient rewards, reinforcing appropriate behaviors, rewarding in a timely manner, administering rewards equitably, and empowering students to achieve. Such attention to motivating factors may help with the retention of online adult students, regardless of the personality type and personal characteristics of the students. As proposed by this article, we continue to apply motivational theory to the online classroom, gather data, and compare motivational models in both the workplace and in the online learning environment.

References
Blended Learning: Bringing Remote Teams and Cross-Cultural Education into the Classroom

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Abstract: This paper describes the genesis, design, and implementation of an original cross-cultural experiment taught in English using a video-conferencing system connecting the University of Tsukuba’s MBA Program in International Business in Japan and the Grenoble Ecole de Management’s Master in Management Program in France. The course was conducted over several weeks, involving students working in mixed and geographically-distributed teams on various exercises and case studies dealing with issues specific to cross-cultural management. First, this paper reviews the evolution of this course over the past three years. Second, the reflective content of the students’ final assignment on their experience in the classroom and beyond with both faculty and peers is used to assess changes in those constructs and examine the contribution of such course. Last, concrete recommendations are provided on the course’s institutional support, structure, blended learning, tangible diversity, and cross-cultural learning.

Introduction
Globalization has been defined as “global competition characterized by networks of international linkages that bind countries, institutions, and people in an interdependent global economy” (Deresky, 2008, p. 4). New market opportunities, access to lower-cost labor, technical expertise and to production inputs have prompted organizations to set up offices abroad and to strengthen their relations with foreign partners. That phenomenon demands that companies learn to deal with an ever more multi-cultural environment in which they must compete, and would-be international managers must develop the right skills and gain relevant experience. In particular, globalization has spurred the use of global virtual teams (Kozlowski and Ilgen, 2006; Dekker et al., 2008) especially among geographically-distributed global firms, thus raising additional organizational, technical, cross-cultural, and management issues.

Learning to cope with the demands of globalization should preferably start before actually working in such international environment, in order to build capacity and allow the learning curve to reach an advanced phase. Institutions of higher education can provide such learning opportunity and many of them have indeed adapted their curricula to this new demand. Groeppel-Klein et al. (2010) report that “AACSB accreditation standards require business schools to cover global issues within both undergraduate and MBA curricula” (AACSB, 2007) (p. 253).

However, the challenges of culturally-diverse remote team work cannot be easily learned without hands-on experience and educational institutions must find new ways to provide effective courses on this emerging work setting of the global economy. The recent financial crisis has been holding back many of those who formerly considered studying or working overseas to learn cross-cultural management first-hand. The chairman of the Japan Business Federation (Nippon Keidanren), Hiromasa Yonekura, lately expressed concern over young Japanese people’s inward-looking mind-sets and tendency to shy away from gaining experience abroad, pointing out that because of its limited resources, Japan’s success builds upon technology and international trade (Daily Yomiuri, 2011). In the context of multinational corporations, Zaheer (1995) remarked that unfamiliar environments, cultural differences and distances contributed to the ‘liability of foreignness’. In order to decrease that liability of foreignness, Goodall and Roberts (2003) suggested “bringing foreignness inside the boundaries of the firm” (p. 150).

Similarly, education on cross-cultural management and remote teams can bring foreignness into the classroom using blended learning. Hicks et al. (2001) for instance recommended that universities “provide for a larger and more diverse cross-section of the population, cater for emerging patterns on educational involvement which facilitate lifelong learning and include technology-based practices in the curriculum” (p. 143). Today, most institutions are implementing distance learning at some level, ranging from merely
offering classroom contents online to providing a full platform for student-instructor and student-student interactions similar to those found in a traditional classroom (Martins and Kellermanns, 2004).

In this context, the University of Tsukuba’s MBA Program in International Business (MBA-IB) in Japan and the Grenoble Ecole de Management (GEM)’s Master in Management Program in France have developed a joint course on cross-cultural issues in global business taught in English using a video-conferencing system connecting the two campuses. Over the course of ten weeks, students work in mixed and geographically-distributed teams on various exercises and case studies dealing with issues specific to cross-cultural management and remote teams. Two faculty exchanges take place, with a Tsukuba faculty member lecturing from Grenoble alongside a French colleague, and a Grenoble faculty member partner with a Tsukuba colleague instructing from Tokyo for two sessions at a time. In addition, a guest speaker is invited in the middle of the course to share his experience on the topic of the course. This elective course has adopted a blended learning approach whereby synchronous face-to-face lectures and discussions in the classroom are complemented by asynchronous exchanges through a course management system, as well as student interactions within their groups using a variety of technology-mediated tools.

Section two describes the theoretical foundation of this research. Section three presents the evolution of the MBA course jointly taught in Japan and France over the past three years, and is followed by a discussion of the results in section four. Last, section five concludes this research.

**Literature Review**

**Blended Learning in the Classroom**

Blended learning has been proposed as a method to combine different modes of delivery and approaches to learning such as face-to-face classroom instruction and e-learning tools (Procter, 2003, p. 3; Akkoyunlu and Yılmaz-Soylu, 2008). For example, instructors integrate synchronous lectures in a traditional classroom setting with information technology tools such as course-management systems (CMS), video-conferencing, and on-demand learning systems through which students can access educational materials and instruction asynchronously.

Clouse and Evans (2003) have shown that such technology-mediated instruction using both synchronous and asynchronous methods for lectures and discussions can guide the learning process. They found that synchronous methods allow for interactive instructions and immediate feedback and for building on the social aspect of learning, while asynchronous communication provides students with an opportunity to reflect and further polish their answers. In other words, blended learning allows for both in-depth learning through discussion and real-time interaction between faculty and students and individual contemplation on subject matters.

Furthermore, blended learning allows institutions of higher education to address the needs of increasingly complex and interdependent society of the 21st century in a practical and efficient manner. With growing demand for continuing education, universities must make education more accessible to working professionals. The use of online learning tools enables these students to more efficiently balance their professional and student lives by providing asynchronous reception of educational materials and instruction. Universities are also increasingly expected to equip students with the tools necessary to navigate the global business environment (Groeppel-Klein et al., 2010). However, international exchange programs that rely only on physical exchange of students are prohibitive in terms of time and cost, allowing for participation of only a few select fortunate students. In contrast, the use of information technology tools such as video-conferencing and e-learning platforms within a traditional classroom setting enables students to meet and learn from instructors and students around the world without traveling abroad.

Garrison and Kanuka (2004) contend that “blended learning is both simple and complex” (p. 96). The integration of classroom face-to-face learning experiences with online learning experiences appears intuitively appealing. At the same time, however, the unlimited possibilities in blending synchronous and asynchronous learning activities make successful implementations challenging, especially if it is done across cultures. Primary issues include developing cooperative relationships with partner organizations based on mutual shared goals, managing time differences, developing instructors’ skills in using e-learning tools, and motivating students’ usage of e-learning tools remotely. This paper addresses methods of overcoming these difficulties through a study of a distance-learning class created and delivered jointly by the University of Tsukuba and the Grenoble Ecole de Management.
Cross-cultural Theories

In today’s global society of fading borders and interdependent economies, managers must be able to navigate the diverse environment of the global marketplace. The ability to understand and manage cross-cultural contexts is essential for success. However, much of the field of cross-cultural education has yet to catch up with the globalization of society and has failed to offer more advanced solutions that can help build true cross-cultural understanding.

Traditionally, cultural theories have provided analytical frameworks based on differentiating and stable, value-based conceptualization of culture (e.g., Leung et al., 2005; Earley, 2006). The most well-known and used theories among these are Geert Hofstede’s five dimensions and Trompenaars and Hampden-Turner’s seven dimensions of culture (Hofstede, 1994, 2001; Trompenaars and Hampden-Turner, 2000). Although these frameworks are useful tools as an initial primer into a foreign culture, in today’s global society characterized by exponentially increasing change and interdependence, a new perspective on cross-cultural theory that offers dynamic insights into how cultures evolve, individual and situational variance in expression of cultural values, and more importantly, the development of cross-cultural adaptability competencies is necessary. The focus is thus on context, appropriate behavior, and developing cultural hypotheses and explanations for paradoxical behavior. Such concrete practicalities are bound to be more useful to global business managers as they try to make sense of the subtle complexities they face while doing business across borders.

There are two methods for learning cultural understanding: didactic and experiential. Didactic learning refers to the traditional style of learning where the instructors offer his/her knowledge in a lecture format, whereas experiential learning is the process of learning through doing (Kolb and Fry, 1975). This course integrated both types of learning styles through lectures and interactive discussions among an international group of faculty and students, and through group-work involving cross-cultural teams. The authors propose that true understanding of the complexities and nuances of cultures must be directly experienced. Through cross-cultural interactions, students able to discern the tacit differences among cultures and individuals, and make and test hypotheses regarding cultural awareness and appropriateness of behavior through direct feedback.

Remote Teams

The theme of this year’s course was “cross-cultural management and distributed teams” to reflect the ubiquity of remote/virtual teams in the workplace. Increasingly, managers find that they must work with colleagues and partners who are remotely located (Meyer, 2010).

A team is defined as “a small number of people with complementary skills who are committed to a common purpose, set of performance goals, and approach for which they hold themselves mutually accountable” (Katzenbach and Smith, 1993, p. 112). A remote team can be defined as a team which uses information and communications technologies to collaborate over distance. In contrast to co-located teams, the physical and psychological distance in remote teams adds another layer of complexity as members are frequently required to work with persons whom they have never met, which makes building trust and establishing shared vision, both essential for effective teamwork (Katzenbach and Smith, 1992), difficult. By extension, virtual teams are remote teams which purposefully use technology to work as one, and they have been defined as “groups of people with a common purpose, who carry out interdependent tasks across locations and time, using technology to communicate much more than they use face-to-face meetings” (Webber and Cramton, 2005, p. 758).

Aubert and Kelsey (2003) also found that the “perceived ability, integrity, and benevolence of remote teammates were significantly lower than the ratings of local teammates and that this gap increased as the projects proceeded. Trust was also higher among local teammates than among the remote partners” (p. 605). The researchers also found that “information symmetry and good communication distinguish high performance teams from low performance teams” (p. 575). These finding suggest that developing effective remote teams requires extraordinary team leadership and development processes, and communication skills. Furthermore, best practices have already been drawn to improve virtual teams. For instance, Wardell (1998) proposed that managers pay attention to the following eight key lessons: learn to manage local teams first before moving up to virtual ones; provide a clear mission; never assume anything and spell things out of the team members; communicate continuously; forge alliances with team members; base incentives on project and personal performance; expect and manage conflict; and learn from past mistakes.
Beyond past research and literature, the course was designed to provide students with the opportunity to experience the peculiarities of cross-cultural remote teams give students a chance to experience it themselves, and get a chance to apply best practices.

**Evolution of the Course**

The course, first offered in 2009, was subsequently improved in response to “on-the-job-learning” in jointly teaching cross-cultural management to students from Tokyo and Grenoble (Table 1).

**The 2009 Pilot Project**

In 2009, following two program directors’ call for developing an academic partnership, a faculty team of four professors from Tsukuba MBA-IB, Japan and GEM set out to design a joint course for students from either institution. Considering the geographical distance and differing time zones, it became obvious early on that the course design needed to be technology-mediated. On the content side, it was assumed that respective countries’ specificities as national economy, technology based industrial activity and cultural managerial practices were to constitute a meaningful as well as motivating body of themes, relating to participating student groups’ life experience and career projections.

The novelty of the entire approach led the faculty team to keep an extremely open outlook, conferring trial nature to the overall project. One institution already had Moodle as a course management system: it provided the possibility to log in students from the partnering institution and thus became the pivotal hinge for depositing and downloading course materials, profiles, instructional messages and other course related comments.

Pedagogically, a mix of didactic learning and active learning was projected, with the intention to re-create a common learning environment over distance and time zones with the help of a video-conferencing system connecting the two sites of Tokyo and Grenoble. This led to an alternate course structure, with the pilot course taught over five 2.5 hour-classes over five weeks preceded by an information session on either side, where presentations by faculty producing knowledge transfer, in-class exercises in view of assimilation and student group presentations relayed each other.

In terms of knowledge transfer, presentations combining faculty’s knowledge of national economies and industrial relations, as well as analytical models of culture (Hall, 1976, 1990; Hofstede, 1994, 2001; Trompenaars and Hampden-Turner, 2000) introduced the specific realities of Japan and France. Exercises were built around participants’ perceptions, projections and interrogations concerning the partnering country and culture, and later intended to facilitate relationship development and a sense of belonging.

According to the content related points mentioned further above, the five learner groups, composed of two students from Tokyo and two from Grenoble, were to work on two case studies retracing the creation and evolution of the Renault Nissan joint venture and to look at aspects of cultural integration and concurrent managerial challenges, especially with respect to leadership and subsequent changes in alliance building. The student groups, limited to ten participants per site – due to the technology mediated setting, managed their teamwork using e-mail, Skype and Moodle. They were also granted one of the online sessions in the form of a video-conference to prepare their final presentations on Renault Nissan. At the end of the course, two Tokyo-based Japanese and French executives from Renault Nissan joined in as guest speakers in order to share experience from their everyday work in the cross-border joint venture and respond to questions from the audience. In a post module assignment, participants formulated their personal impressions, experience and conclusion of the class.

**The 2010 Elective**

2009 had proven the feasibility of the joint Tsukuba-GEM management course. A series of teleconferences was held by faculty in order to debrief and capitalize on this first experience. The following changes were planned for the 2010 edition.

The general impression of faculty and students was that the duration of five weeks was insufficient to cope with a variety of requirements; time was perceived to be too short to:

- Develop in the virtual teams a team relationship and a work routine.
- Cope with English as a foreign language and its many variations in terms of accents and intonations.
- Complete readings and assignments.
- Explore and discuss culture and management-related questions tied to the course.
Experience team life-cycle and cultural differences.

It also occurred that participants in Tokyo and Grenoble were not only Japanese and French, but also from Central Asia, North Africa, West Africa, China, Bangladesh, Turkey, Austria and Denmark, raising the question of cultures different from Japanese and French.

As a direct consequence, the partnering institutions decided to double the duration of the course from five to ten 2.5 hour sessions plus an initial informal presentation and preparation session. The former trial project was properly listed as an elective course within the institutions’ curriculum. This very decision entailed substantial reengineering of the class. While during the 2009 edition there had been one faculty exchange of two professors, there would now be two faculty exchanges of four professors between Tokyo and Grenoble in order to help create necessary commitment, group feeling and team spirit between the two distant locations through a minimum of face-to-face interaction, during and after class hours. Exchanging faculty would systematically play an active part during their visit at the partner institution in order to motivate the exchange and underscore the importance of social relationship development in a geographically distributed learning environment.

As a consequence of the professional, cultural and national diversity of the students, several changes were made: first, regarding cross-cultural issues, a joint-venture case study featuring a greater variety of stakeholders from various origins was sourced. Second, additional case studies with perspectives on innovation, internationalization strategy and knowledge management were added to analyze cross-cultural dimensions in a variety of management contexts.

The previous year’s class had attracted attention to the issue of technology-mediated learning across borders. Hence, Grenoble acquired licenses for a PC web-meeting tool, Adobe Pro Connect. Faculty trained themselves using the tool before suggesting its use to students to meet virtually, discuss and jointly work on ideas using a screen-share for whiteboard or PowerPoint. The introduction of the web-meeting tool would free the former in-class team coordination session and strengthen asynchronous learning activities around the virtual classroom.

At the end of the previous year’s class, students had vented frustration about insufficient time and opportunities to get in touch in more personal terms. Consequently, on Moodle, the course management system, apart from the initial upload of personal profiles including a picture and a paragraph on personal interests, motivations to join this class, etc., the faculty team introduced an online discussion forum and explicitly encouraged students to partake actively. Discussions started in class could now be resumed and enriched after class on the forum. In addition, a “wiki” was activated and students were required to upload a weekly personal journal in order to reflect on their perception, participation, distant teamwork experience and learning.

Compared to the previous year, there were more topics, more lectures by specifically qualified faculty, more group work. The original balance between didactic pedagogy and active learning meant a shift towards the latter. The guest speaker session was kept to blend book learning, case discussion and real life experience. The 2010 edition guest speaker session bore on innovation management and clusters.

The 2011 Edition

A variety of observations pushed towards further innovation of the Tsukuba GEM Project course design. First of all, after having widened the scope of analysis and discussion to cross-cultural management in global business, the course title and content needed adaptation again to reflect this orientation more closely.

Also, looking back at how distributed virtual teams had operated and used IT and, in particular, web-meeting tools, new and yet unsatisfied needs arose: what do globally-distributed virtual teams need in order to become efficient and effective? The 2011 edition would thus push self-reflection and analysis on issues such as group vs. team, and culture of origin in virtual team management.

The following changes were implemented: the relative part of formal lectures within the overall class was reduced to two lectures over ten sessions. More careful attention was borne to introducing the web-meeting tool and training. Roles were distributed amongst students to teach and promote the use of the tool. Pedagogy as a whole shifted from the initial mix towards experiential learning, in which individuals were expected to integrate their respective teams, work together on a series of regular task assignments and submit their group work with deadlines. In doing so, they were confronted with the challenges of time management in organizing across time zones (heightened by the fact that the Japanese students are working professionals and not easily available during office hours), time management and overall handling of the web-meetings in the perspective of producing satisfactory results within a limited amount of time.
Table 1 The evolution of the course over the past three years

<table>
<thead>
<tr>
<th></th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Location</strong></td>
<td>Tokyo and Grenoble</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Students</strong></td>
<td>Maximum 10 from each institution</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Central topic</strong></td>
<td>Cross-cultural management</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Additional topics</strong></td>
<td>Leadership</td>
<td>Innovation, international joint ventures, knowledge management</td>
<td>International joint ventures, global virtual teams</td>
</tr>
<tr>
<td><strong>Focus</strong></td>
<td>Japan, France</td>
<td>Global</td>
<td>Global</td>
</tr>
<tr>
<td><strong>Sessions</strong></td>
<td>5</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td><strong>Faculty exchanges</strong></td>
<td>2</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td><strong>Pedagogy</strong></td>
<td>Didactic and experiential</td>
<td>Blended learning</td>
<td>Blended learning</td>
</tr>
<tr>
<td><strong>Tools</strong></td>
<td>Moodle, Skype</td>
<td>Moodle, Skype, Wiki</td>
<td>Moodle, Skype, Adobe Pro Connect</td>
</tr>
<tr>
<td><strong>Pedagogical approach</strong></td>
<td>Lectures, exercises, group work on cases and coordination, guest speaker</td>
<td>Short lectures, exercises, cross-cultural case on joint venture, weekly personal diary, guest speaker</td>
<td>Short lectures, exercises, cross-cultural case on joint venture, cross-cultural case on virtual teams, guest speaker, questionnaires on culture and team behaviors, end of module personal diary</td>
</tr>
<tr>
<td><strong>Student nationalities</strong></td>
<td>Japan, France</td>
<td>Limited number of Japanese, France + misc. nationalities Africa, Asia</td>
<td>Japan, France + misc.</td>
</tr>
<tr>
<td><strong>Guest speaker session</strong></td>
<td>From Japan and France, on cross-cultural management</td>
<td>From France, on regional clusters of innovation</td>
<td>From France, on global virtual teams</td>
</tr>
<tr>
<td><strong>Socializing events</strong></td>
<td>None</td>
<td>One in Tokyo, one in Grenoble</td>
<td>One in Tokyo, one in Grenoble</td>
</tr>
</tbody>
</table>

The two lectures named above, plus a number of short cases and various exercises still bore on cultures in management related issues. But, beyond that point, the idea of really engaging personally, as a member of a cross-cultural and geographically-distant project team without face-to-face interaction become much more prevailing. Intercultural learning implied tended to occur principally within the teams, albeit in differing amounts, according to observed relative task or relationship orientation between respective teams, in more or less outspoken ways. To stick with the updated topics of the course, the following changes were made.

- Readings on international teams, team life-cycles, trust-building.
- A full session dedicated to a case on a remote global team facing serious difficulties.
- The faculty team, having undergone this very experience over the last 3 years (and more for some), keeping track and feeding back periodically.
- Guest speaker sharing own experience as manager and leader of a global remote team in a well-known global corporation.

With all these changes and limited time, the weekly personal journal had to be dropped. A personal take-away post-module assignment indicated that, despite learning activities designed to mirror real-life professional teamwork in a global and culturally-diverse business environment, students reported persisting challenges. Simultaneously, this learning project, perceived by several participants as on-the-job training, was valued as a meaningful opportunity to acquire specialized skills, and sometimes even as personal enrichment.
Discussion
The past three occurrences of this course have enabled the four faculty members involved at the two institutions to refine the joint offering and drawing a set of effective practices in the areas of institutional support, course structure, blended learning, tangible diversity, and cross-cultural learning.

Institutional Support
As previously argued by Alavi and Gallupe (2003), e-learning is usually the result of explicit organizational strategies. In this instance, the joint e-learning initiative was born out of both GEM and the University of Tsukuba’s desire to offer their students a new experience beyond traditional international business learning. The geographically distant nature of the two universities became the main driver for blended learning format combining students and faculty from both sides, and thus providing a learning opportunity for both universities.

This experiential cross-cultural course was made possible, not only thanks to strong top-level institutional support, but also thanks to the relationship of the four faculty members developed over more than three years, as well as to their diversity in terms of cultures, nationalities, academic, and business experiences. Therefore, it is important to note that this type of course would be difficult to extend to other subjects as it would involve a different set of professors who would need to be willing to and to learn to work together.

Course Structure
Through trial and error, the course now features 10 sessions to provide students enough time to get used to the tools and format of the course, as well as to utilize them fully after a ramp-up period. As standard class formats are different between academic institutions of different countries, the two universities had to adapt to the less flexible one, here Tsukuba. Regarding the number of sessions, in reality, the Grenoble side included one more off-line pre-course session to comply with its own academic credit-hour requirements. This arrangement shows that the two universities can still retain some autonomy in working together.

Every year, the faculty found that too much content was being crammed into each class, even when the duration of the course was doubled, and cross-cultural classroom discussions had to be cut short to cover the remainder of the session’s planned topics. Furthermore, there were too many assignments and students on the Tokyo side were especially overwhelmed, considering that they work full-time besides pursuing an academic degree.

Blended learning
The blending of synchronous and asynchronous learning, or the combination of different modes of delivery and modes of teaching and learning (Procter, 2003), was chosen as the most efficient way to build on the social aspect of learning and to provide an opportunity for reflection (Clouse and Evans, 2003). This mixed approach was found to fit well with the challenge of physical, time zone, and cultural distance among all participants, including students and faculty.

Most working professionals from Tsukuba were already familiar with global virtual teams as they were working for large international corporations using this type of organization. For the younger students from Grenoble without little work experience, such distance-learning course leveraging geographically-distributed teams was first a challenging discovery, and second can be useful in preparing for an international career where the use of such tools and collaboration across time zones are becoming commonplace.

Students need to be given time to reflect on the course through the use of journals and be engaged in active forums to discuss relevant topics with fellow classmates and faculty. However, such threaded discussions require active management and participation from faculty, whose usual involvement is limited to the classroom. Such blended learning therefore demands a re-thinking of the professor’s role and pedagogical approach, which should now encourage discussions and exchanges on- and off-line.

Tangible Diversity
The exchange of faculty was decided mainly to overcome the feeling of distance and remoteness typical of distance learning and to provide students the rare opportunity to receive first hand evidence of the course topic, namely cross-cultural management, by allowing face-to-face access between students and faculty of the partner international institution.
Although this exchange incurred a substantial cost to both institutions, the faculty team felt it was certainly needed to bring tangible diversity to the physical classroom. In order to make the faculty exchange more cost-effective, the dispatched faculty taught an additional workshop open to a broader audience while at the partner institution.

Many business schools offer special classes given by visiting foreign professors beyond those taught by full-time faculty. However, the student body itself usually remains unchanged. The diversity of students in this joint course, with students from many different nationalities, provided the rich cultural diversity rarely found in even the most international programs. The faculty team felt that the course was able to bridge several differences, including distance, time, and language, but somehow shortening the gap between younger full-time profiles remained challenging. Based on student feedback, the gap in their experience (or lack thereof) was found to be an issue resulting from different levels of understandings and motivation. As a result, it might be preferable to achieve balance in terms of student profiles and experience. Matching student profiles and motivation would certainly help increase cooperation over the distance separating the two groups and eventually raise learning outcomes. In order to overcome this issue, which had already arisen in the first year, institutional relationships and commitment must be built between relevant programs at each partner institutions boasting similar student profiles.

**Cross-cultural Learning**

The cross-cultural topics of the course itself were chosen after the two institutions decided to offer such joint course, based on the appropriateness of the subject and on organizational constraints. The pedagogic method of this joint lecture was a blending of didactic and experiential learning before, during, and after class sessions.

Students on both sides submitted a post-module assignment describing their learning process throughout the course; this provided valuable feedback to the faculty members. In particular, the students valued the chance to interact with international faculty, work with international students, and the intervention of guest speakers for the case study. Some students also mentioned that they were happy to have had a chance to experience a virtual team, which they believed would become prevalent in their future work life. As previously-mentioned, those students with more work experience would have preferred to work with counterparts with a similar background.

Group work had mixed results as some students felt disappointment or frustration at the culturally-different approaches to group work. Those groups who did better were more task- than relationship-oriented, focusing on effectively turning in deliverables. This is consistent with Aubert and Kelsey (2003)’s research which suggests that trust is not as important as information symmetry and good communication.

Last, younger less-experienced students on the French side were found to be much more open to self-reflection in personal journals, while experienced professionals on the Tokyo side showed to be more hesitant in self-reflecting upon their class learning. In 2011, the weekly journal assignment was replaced by an end-of-session three-page personal discussion which yielded less self reflection.

**Conclusion**

The trend towards greater global interdependence and the need for practical experience of cross-cultural management and remote teams to overcome the liability of foreignness have proven the necessity of such shared course. This module, jointly held for the third year by two graduate institutions located in two different countries, provides useful recommendations.

First of all, institutional support within both universities is necessary as this type of course tends to use more resources than regular ones. Additionally, because such module requires at least two faculty members, one on each side, a relationship between them needs to be established and cultivated. Second, although the joint course’s schedule must adapt to the less flexible institution, the two universities can still add additional sessions to comply with their own internal credit-granting rules. Furthermore, because cross-cultural classroom discussions deal with underlying cultural assumptions, each class should provide adequate discussion time. Third, blended learning and faculty exchange, incorporated out of necessity, fit not only the unique challenges of physical, time zone, and cultural distance between the two classrooms, but also reflect the topic of remote teams while providing an opportunity to increase cross-cultural tangible diversity. It is important to note that faculty members need to adapt their teaching style to this pedagogical approach as it requires more direct involvement, especially outside the classroom. Last, the topic of such course can only deal with cross-cultural aspects reflecting its unique setting; over time, for instance, it has
come to embrace a more global scope beyond French and Japanese issues to match the evolution of the student body. One of the greatest benefits of this course for students was, by design, the opportunity for experiential learning on the topic of global remote teams.

References


On the prejudice of Multi Media streaming: Web lectures serve lethargic students and make teaching staff redundant.

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Introduction

New information and communications technologies (ICT) are changing the world we live in, and the way we learn to live. The increased use of ICT in higher education has been met both with praise as well as resistance. For example, the rise of the internet greatly enhanced the availability and accessibility of resources but at the same time it was said to prevent students to build their own knowledge base and become less critical (Graham, 2003). Nowadays the availability of multi-media applications enabling the recording and streaming of lectures has become widespread. Combined with the changing role of the teacher from the source of knowledge towards a knowledge gathering facilitator, the prejudice regarding the use of web lectures has grown (Jenkins, 1999). A deep-rooted prejudice is that, with the presence of multimedia streaming, students would not attend classes anymore and it would therefore stimulate a laidback attitude among users. Some critical views even pictured an image of students spending their time in bed watching a recorded lecture and teachers lecturing an empty lecture hall and eventually becoming redundant (White, 2003).

However, current technologies offer much more functionality than merely the support of passive knowledge consumption. As recent discussions about the use of ICT in education point out (e.g. Van Son, 2011), the question if ICT is useful for education has been debated for over three decades and a shift of focus is needed to the question how ICT can be useful for education. We take the latter angle for this contribution by presenting partial results from research done in the context of a national project conducted in The Netherlands: OASE. Within OASE, 9 Dutch and 1 Belgian institute for higher education have been equipped with the usage of web lectures in a didactical manner for over two years. Instead of just recording and broadcasting lectures, OASE aims to implement the use of multimedia recordings with different pedagogical models aiming to increase students’ learning curve.

Research findings from the domain of computer-mediated communication indicate there is a need for research on the effect of individual learner characteristics in online learning (Luppicini, 2007). Motivation is one such characteristic that has been shown to have a profound influence on learning. A lot of research on motivation is done in the domain of computer supported collaborative learning and the use of web lectures does not have a large collaborative part. However, the combination of research into the effect of motivation both in ICT supported settings (Järvelä, Volet, & Järvenoja, 2010) as in settings that are not (Ryan & Deci, 2000; Vallerand, 1997) give enough base for us to assume it will also affect the way learners make use of web lectures. For this contribution we will focus on individual academic motivation from the perspective of self-determination (Ryan & Deci, 2000). Intrinsic motivation here is found to relate to a more conscious attitude toward learning leading to deeper learning. Martens, Gulikes & Bastiaans (2004) confirm these findings and found intrinsically motivated learners not necessarily to do more, but to be engaged in different learning behaviour. We expect more intrinsically motivated learners to make a more active use of web lectures and also to make a more conscious decision to go to class or to watch a web lecture. In their turn, in accordance with Day (2006) we expect learners who made more usage of the web lectures to have better learning results.

Setting

Data has been collected among 10 different Dutch and Belgian education institutions with multiple pedagogical models in multiple domains. This contribution will focus on data collected at one of the participating institutes, namely a biology course offered at a Dutch university. The course is based on the idea that students watch small aspects of web lectures before the start of a practicum, in order to be more prepared. By means of the so called “poll function” students can indicate, by means of voting buttons, whether they understood the material.
Participants
88 biology from a total of 100 who participated in the course, completely filled out the questionnaire. The average age was 21 and 44% was female.

Instruments
A questionnaire was developed combining two instruments. The first is a general evaluation questionnaire that was developed within the project. It consists of a number of general questions that are the same for all pilots conducted in the project with additional pilot specific questions. The second is the existing Academic Motivation Scale (AMS; Vallerand, 1997). The AMS measures motivation as a continuum between intrinsic and extrinsic motivation. It consists of 28 items divided into seven subscales of which intrinsic motivation and extrinsic motivation both are measured using 3 subscales. Intrinsic motivation is divided into intrinsic motivation to know, - to accomplish and - to experience stimulation. Extrinsic motivation ranges from identified regulation via introjected to external motivation. The final subscale concerns amotivation or the absence of regulation.

Data analysis
A comparison is done on the basis of the self-determination profile of students that is calculated by using the principle of a Relative Autonomy Index using the scores of the AMS subscales. The RAI score was computed by using weight factors for the self-regulation subscales as a function of their position on the continuum using the method described by Ryan & Deci (2010): 2 X Intrinsic + Identified - Introjected - 2 X External. By using a median split two groups were obtained (low vs. high autonomy) that were compared using T-tests and Chi-square tests depending on the scale of a variable.

Results
First results indicate there is a slight tendency for students in the high autonomy group to watch more weblectures than students with low scores. Moreover, students in the high autonomy group tend to both attend lectures and watch the weblectures as students in the low autonomy group significantly differ from the high autonomy group in that they didn’t attend (part of) a lecture but instead watched the recording more often.
No significant difference was found in the way students watch a weblecture (complete; complete using fast forward or watching only useful parts). If students watch a weblecture, they prefer to watch it completely. When compared with their in- or extrinsically motivated peers, students with high levels of amotivation, report to have substituted going to class by watching web lectures more often. These findings suggest that web lectures might be a good way to include students with no clear sense of autonomy with regard to learning.

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Redesigning the classroom to enhance knowledge spillovers: the role of friendship versus group work

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Abstract: There has been a rapid growth in the use of small groups in teaching to engage students in active learning. However, limited research has been conducted in order to assess whether teams also learn from the experiences of other teams in their class and what the underlying mechanisms for creating this learning space are. In the study 1, 57 business students interacted in a blended learning context with several opportunities to share knowledge both within and across teams. In study 2, 30 participants primarily worked on an individual basis for five months. After seven weeks, the average density of the social learning network in study 1 increased to 9%, while the average density of learning in study 2 increased to 37%, indicating that prior friendships have a stronger influence on sharing knowledge with peers than purposefully designing collaborative learning environments.

Introduction
There has been a rapid growth in the use of small groups in teaching to engage students in active learning (Decuyper, Dochy, & Van den Bossche, 2010; Lindblom-Ylänne, Pihlajamäki, & Kotkas, 2003; Michaelsen, Knight, & Fink, 2002). By implementing a team-based structure teachers aim to convert their classroom in a learning environment where students learn from and together with their fellow team members (Hernandez Nanclares, Rienties, & Van den Bossche, 2010, In Press; Hurme, Palonen, & Järvelä, 2007; Katz, Lazer, Arrow, & Contractor, 2004; Lindblom-Ylänne, et al., 2003; Van den Bossche, Gijselaers, Segers, & Kirschner, 2006). However, the introduction of teams as basic learning units in the classroom questions the value of the classroom as a learning space; a space in which the different agents in the learning process - teachers and students - are together.

Within educational psychology, limited research has been conducted in order to assess whether teams also learn from the experiences of other teams in their class and what the underlying mechanisms for creating this learning space are. In particular, limited research has addressed how teachers can design their classroom in such a way to optimise the sharing of knowledge and expertise of students across the classroom. Therefore, in this paper we will compare two specifically designed learning environments whereby teams were working on authentic and complex team assignments and were dependent on the outcomes of other teams. In study 1, students were working in small teams as well as in classroom settings on complex problems, whereby most participants were not familiar to each other before the start of the module. In study 2, students have already worked and learned together for five months. In contrast to study 1, in study 2 students had to work parallel to the course on one final group assignment rather than on several group tasks. The main goal of the present study is to determine whether learning within and across learners and teams (i.e. knowledge spillovers) in classroom settings occur naturally, or have to be actively stimulated by instructional design activities such as group tasks. In particular, we want to unravel whether and how knowledge spillovers across teams occurred over time in the two settings. In other words, in this explorative study that is positioned in two authentic classroom settings specifically designed to enhance inter-team and intra-team learning, we want to unravel the classroom as a place where small working teams develop their social and learning exchanges, both within and across teams.

Learning within and across teams: knowledge spillovers
Research on (team) learning and knowledge management have identified how effective learners and teams engage in external knowledge sharing (Cummings, 2004; Eggens, van der Werf, & Bosker, 2008). Research on team learning, for example, has pointed out that when confronted with time pressure, lack of knowledge, changing circumstances, and resource scarcity, teams are increasingly turning to boundary spanning in search of external sources to lean from rather than relying solely on their own experiences and knowledge (Bresman, 2010; Edmondson, Winslow, Bohmer, & Pisano, 2003). Within educational sciences,
the research of Eggens et al. (2008) indicates that students who actively used their personal network (outside their classroom) were more likely to successfully complete their studies.

Learners and teams are interacting in close proximity of each other in- and outside the classroom. By providing a learning space with specific team assignments that are authentic and build on the knowledge of other teams (Segers, Dochy, & Cascallar, 2003; Struyven, Dochy, & Janssens, 2011), whereby learners and teams are expected to learn from each others’ knowledge and experience, share different opinions and viewpoints, the willingness of learners to share information is extended. Therefore, in line with Hernandez-Nanclares et al. (In Press) we define knowledge spillovers as positive influences that teams receive in terms of knowledge from other teams in the classroom.

The role of friendship in learning in the classroom

Friendships in- and outside of class develop in a natural manner and have an important effect on how students learn (Baldwin, Bedell, & Johnson, 1997; Hernandez Nanclares, et al., In Press; Pastor, Meindl, & Mayo, 2002; Wentzel & Caldwell, 1997; Wilcox, Winn, & Fyvie-Gauld, 2005). First of all, in line with Tinto (1975) model of academic and social interaction research has found that friends of first-year students were found to give a feeling of social integration within the students’ academic surroundings, which in turn predicted for higher performance (Rienties, Grohnert, Koomers, Niemantsverdriet, & Nijhuis, 2011; Severiens & Wolff, 2008; Wilcox, et al., 2005). The research of Eggens et al. (2008) found that students who actively used their personal network (outside their classroom) were more likely to successfully complete their studies. Secondly, students’ motivation to learn is viewed as socially and culturally constructed (Järvelä, Hurme, & Järvenoja, 2011). Social relations such as peers, influence students’ motivation to learn (Hernandez Nanclares, et al., In Press; Järvelä, et al., 2011; Rienties, Tempelaar, Giesbers, Segers, & Gijsselaers, Submitted). For example, Krackhardt and Stern (1988) found that when novice students worked together in small groups, having one or two friends within the group helps the transition process. At the same time, having too many friends into a group may actually hinder new knowledge ideas and creative processes, as friends might be less inclined to dismiss an idea of their friends or actively start a cognitive conflict. In line with the strength of weak ties hypothesis of Granovetter (1973), having a (small) number of friends but also links to other students will ensure that students can benefit from new ideas from peers.

Understanding dynamics of knowledge spillovers with Social Network Analysis

Social Network Analysis (SNA) can be considered as a wide-ranging strategy to explore social structures to uncover the existence of social positions of (sub)groups within the network (Katz, et al., 2004; Krackhardt & Stern, 1988; Rienties, Tempelaar, Van den Bossche, Gijsselaers, & Segers, 2009). According to Newman (2003), “[a] social network is a set of people or groups of people with some pattern of contacts or interactions between them”. In a review of Social Network Analysis (SNA) for small groups, Katz et al. (2004) argue that the network perspective can help researchers to identify and explore social network interaction features in groups or networks. For example, SNA can be used to determine why some learners are more active than other learners (Hurme, et al., 2007; Martínez, Dimitriadis, Rubia, Gomez, & De la Fuente, 2003), why some experts receive more inquiries for information than others (Borgatti & Cross, 2003), or why some networks develop into successful and sustainable networks while others fail (Bohle Carbonell, Rienties, & Van den Bossche, 2011; De Laat, Lally, Lipponen, & Simons, 2007).

Methods

Setting

Using design-based research, we compared two designs of classroom teaching in an elective third-year course of Business Administration and first-year compulsory course of World Economy course at the Economics Faculty at University of Oviedo. In the study 1, an innovative learning environment was designed whereby 57 business students interacted in a blended learning context (For elaborate description, see Hernandez Nanclares, et al., 2010; Hernandez Nanclares, et al., In Press). Eleven small working teams were formed by purpose and (shared) knowledge in their social learning space. Most participants were unfamiliar with each other and worked for the duration of fourteen weeks on a range of group tasks. The instructional design offered the teams several opportunities to share knowledge both within and across
teams. Furthermore, intra-and inter-team interaction tools were put into place both in the face-to-face and in the online environment, which is based upon successful designs of a blended learning environment as described in Rienties et al. (2008).

In study 2, a cohort of 30 participants primarily worked and learned in a self-directed and individualised manner on individual assignments and tasks. Although no formal group activities were scheduled, the lecturer encouraged active discussions between students during class. During the final meeting, students had to tell their individual assignment to the rest of the group. While in study 1 most participants did not know each other, in study 2 these 30 participants have already worked and learned together for half a year before. We expected that knowledge spillovers would occur naturally due to the fact that students were familiar to each other and developed friendships in Study 2, even if no specific group activities were designed.

**Instruments**

**Measuring knowledge spillovers using SNA**

For ascertaining whether inter- and intra-team learning and knowledge spillovers occurred during the course, we employed a method developed within the field of Social Network Analyses (SNA). That is, the evolution of knowledge exchange was analysed in three steps. First, the social network of friendships was measured at the first day of the course. The 87 students answered the Social Network question stem “I am a friend of...” in Spanish. A list with all 57 names in study 1 and 30 names in study 2 of the students was provided as is commonly done in SNA (e.g. Bohle Carbonell, et al., 2011; Casciaro, 1998; Haythornthwaite & Wellman, 1998). In class, students had to mark on a Likert response scale of 1 (Totally disagree) – 5 (Totally agree) whether they were a friend of each respective student or not. Afterwards, the friendship network was compared with the social learning network.

Second, in line with previous research (De Laat, et al., 2007; Pastor, et al., 2002; Rienties, et al., Submitted) we measured the social learning network at two phases (week 4 and week 7) during the course in order to analyse the dynamics of inter- and intra-team learning. For all three measurements a 100% response rate was established in study 1 and a 93% response rate in study 2. The valued social network matrices that resulted from the learning questionnaires were dichotomised by recoding values 4 and 5 to 1 (indicating that student learned from a respective student), while values 1 – 3 were recoded as 0 (indicating that a student did not learn from a respective student).

**Results**

**Prior friendship relations**

In order to control for the fact that knowledge spillovers between teams might have resulted from prior friendships (Baldwin, et al., 1997; Casciaro, 1998; Eggens, et al., 2008; Haythornthwaite & Wellman, 1998), we compared the social learning networks at the two time measurements with the social friendship network measured at the beginning of the course. On average, learners in study 1 indicated to have 3.89 friends, or 5% of their classroom was considered to be a friend at the beginning of the course. In study 2 learners indicated to have 13.33 friends, or 44% of their classroom, which is significantly different at a 1% confidence interval using an independent sample T-test compared to study 1. Follow-up UCINET QAP correlation indicate that neither the valued network measure of friendship nor the dichotomised network measure of friendship is significantly correlated to the social learning networks after four and seven weeks (Hanneman & Riddle, 2005) for study 1.

In contrast, in study 2 substantial significant correlations are found both for the valued (r after 4 weeks= 0.463, r after 7 weeks = 0.427) and dichotomised network (r after 4 weeks= 0.403, r after 7 weeks = 0.393), indicating that the social learning networks found in study 2 are strongly related to initial friendships. In other words, as expected students in study 2 already had substantial friendship relations before the course started. Furthermore, while previous friendship relations did not influence social learning relationships in study 1, in study 2 the friendship relations were positively correlated with the social learning networks after four and seven weeks.
Development of learning networks using graphical analysis

To illustrate the power of SNA in understanding the knowledge spillovers within and between teams in study 1 and study 2, the social networks of learning at week 4 (Figure 1) and social network of learning at week 7 (Figure 2) are presented. Five aspects can be distinguished from these figures. First of all, the social networks illustrate from whom students have learned a lot and what the direction of learning is. For example, in Figure 1 (top) one student of team 3 (black, diamond) has indicated that (s)he learned a lot from one student of team 2 (blue, box), which is indicated by the direction of the arrow (Wasserman & Faust, 1994).

Second, the respective student from team 2 in study 1 has four so-called “reciprocal links” with the other four members of team 2 in Figure 1. In other words, all five members of team 2 indicated to have learned a lot from each other’s contribution and the arrows go to each of the five members. However, no reciprocal link is indicated between the student from team 2 and team 3, indicating that knowledge spillovers were primarily from team 2 to team 3. In other words, SNA graphs can be used to determine how knowledge spillovers occur within teams as well as across teams. Most students in study 2 have a lot of reciprocal links.

Third, the social network graphs show the respective position of individual students as well as of teams. In Figure 1-2, some learners and teams are on the outer fringe of the network and are not well-connected to other members or teams. For example, only one member of team 2 and team 5 is connected to a student from another team in study 1. As a result, these teams are situated on the outer fringe of the network, while other teams have indicated to have learned more from other teams. Furthermore, some students and teams are more central in the learning network. Team 3 is an interesting exception to the other teams who mainly are situated closely with their own team members as members of team 3 are more in contact with other students than with their own team members. In study 2, most learners have a range of connections to other learners.

Fourth, when comparing Figure 1 with Figure 2, the number of learning links between students and teams alike has increased substantially, in particular for study 1. More importantly, after seven weeks the “natural borders” of teams become blurred as is illustrated in Figure 2. That is, while in Figure 1 students were primarily interacting within their team in study 1, in Figure 2 the position of the members of each team are increasingly mixed and intertwined with other teams. More importantly, the number of connections between learners from different teams is substantially increased. In other words, after seven weeks members of teams not only indicated to have learned a lot from other members of the team but also from other students. Thus, more knowledge spillovers have occurred across teams after seven weeks in study 1.

Quantifying knowledge spillovers

Although the four social network graphs seem to indicate that teams over time develop more links and knowledge spillovers to other teams, distilling the actual number of learning relations per team is difficult to perform based upon visual inspection. On average, in study 1 a student has 4.70 (1.68) learning ties to other learners, while in study 2 on average 11.27 (4.49) ties with other learners are present after four weeks, as is illustrated in Table 1. As a result, students in study 2 are learning with significantly more peers than in study 1 using an independent sample T-test, despite having less explicit tasks to work together in small groups. This is also reflected by the social cohesion measures of the social learning networks. In study 1, the average density after four weeks is 6%, while in study 2 the average density is 28%.

After seven weeks, the average number of learners a learner is connected in study 1 to (almost) doubles to 7.61 (1.68), which implies over time learners in study 1 are learning more with other learners in their classroom. In study 2, the number of ties to other learners increases with 28% to 14.40 after seven weeks, which is significantly more learning connections in comparison to study 1. After seven weeks, the average density of learning in study 1 increased to 9%, while the average density of learning in study 2 increased to 37%.
Figure 1 Learning network after four weeks in study 1 (top) and study 2 (bottom)
Figure 2 Learning network after seven weeks in study 1 (top) and study 2 (bottom)
### Table 1 Friendship and Learning Ties in study 1 and study 2

<table>
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<th></th>
<th>Study 1 M</th>
<th>Study 1 SD</th>
<th>Study 2 M</th>
<th>Study 2 SD</th>
<th>T-test</th>
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<td>9.852**</td>
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<tr>
<td>Learning ties after seven weeks</td>
<td>7.61</td>
<td>4.07</td>
<td>14.40</td>
<td>5.20</td>
<td>6.706**</td>
</tr>
</tbody>
</table>

Note: Independent Sample T-test and Chi-Square test for Study 1 (n=57) and Study 2 (n=30)

### Discussion

In this article, we compared two classroom designs in order to enhance our understanding of knowledge spillovers in a classroom setting. The concept of knowledge spillovers, that is the degree to which knowledge from one team is disseminated to other teams within a certain geographically limited learning space, was used in order to explore whether teams over time develop inter- (i.e. between teams) or intra-team (i.e. within a team) knowledge spillovers over time. A first contribution of this paper is that we combined two streams of research in order to understand the complex dynamics of team learning, whereby we developed a comprehensive understanding of how teams within classroom setting develop knowledge spillovers to other teams. That is, by using social network analysis of knowledge spillovers in a longitudinal manner, we were able to analyse how knowledge spillovers in the two designed classroom settings developed over time. Using our longitudinal analysis of social learning networks, we found that learners in the first study needed some time to develop learning networks outside their own team, while learners in the second study were actively learning from their peers from the beginning of the course.

The more detailed social network graph analyses indicate that teams in the beginning of course were primarily working and learning within their team in study 1. As a result, the structures and boundaries of the teams of knowledge spillovers after four weeks were clearly defined in the social network graph. However, over time the team structures and boundaries became more mixed or blurred with other teams, which illustrate that teams were actively learning from other teams’ knowledge and experience. In other words, the design of the course allowed a learning space for all teams to share knowledge and build a learning environment that transcended the borders of the small working groups. In study 2, the prior friendships significantly influenced the sharing of knowledge among peers, even though no specific group activities were designed in week 4 and week 7. Given that not all data is collected in study 2, the social learning networks after 14 weeks and the actual impact of knowledge spillovers on learning outcomes still need to be established.

### Implications for business education

The results of this study illustrate that social network instruments can enhance a teacher’s understanding of the social and cognitive developments within his/her classroom. By implementing a SNA questionnaire after a couple of weeks, a teacher can assess whether all members within a team are actively sharing knowledge within their team and across teams (Hernandez Nanclares, et al., In Press). Students or teams that are not well-connected in the social learning network should be targeted by the teacher in order to determine whether there are any conflicts, miscommunications or personal issues that prevent learners and teams to actively engage in the classroom.

By implementing similar SNA questionnaires on a frequent basis during the course, a teacher can improve his/her understanding how teams and learners are sharing knowledge and expertise. While in our setting we implemented a paper-based SNA method that required more data processing before social network patterns could be revealed, currently there are several online questionnaire programs available that allow teachers to assess the social learning networks of their students and obtain social network data in a comprehensive, time-efficient and straightforward manner. This opens up the opportunity to evaluate the influence of (changes in) the design of the collaborative classroom on the ‘social infrastructure’ underlying learning.
References


Agency Unbound or Institutions Constrained: Markets or Reframed Legitimacy Seeking for UK HEI's?

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Following the financial crisis of 2008, it is currently abundantly clear that the raising and disbursement of public finances have undergone radical reconsideration. The evaporation of any public surplus, and the creation of new levels of public debt are now having direct impact on higher education institutions and the higher education system itself (in the UK a decrease in extra student numbers from an originally proposed increase of 20,000 under the previous political regime to 10,000 under the current one, combined with a 6 billion pound HE budget direct cut followed by a more ‘marketised’ funding model via individual students).

This exploratory session intends to examine the shifting landscape from a neoinstitutionalist perspective (Fernández-Alles 2008; DiMaggio and Powell 1983) and will consider whether HE institutions will merely change their form of legitimacy demonstration to multiple stakeholders, or genuinely embrace neo-classical thought and process in terms of future HE practice (Adcroft, 2010). The consideration of such a shift will involve elaborating the nature of mimetic, normative and coercive pressures on HE institutions up to the recent past; the specific implications of a seemingly customer-based direct set of purchases of HE service by individuals into the future; and the degree to which any neo-classical practice ranging from new public management through to competitive strategising is itself merely reflecting social mimetic behaviour in response to a new and dominant austerity discourse.

As an experienced HE practitioner within the rather more overtly commercial or ‘third stream’ sector, and with many years postgraduate programme leadership background, I find myself in a position to begin to question some of the apparent gaps between higher level discourse and experiential practice. I will use illustrative examples from the UK case, and attempt to elucidate the changes in front-line practice which the above arguments suggest. I will test out ideas amongst academic peers within the session as to the extent to which the transformation forces a different mind-set to that prevalent under conditions of traditional legitimacy-seeking; and suggest that any transformation will not simply be that of neo-classically competitive behaviour in a free market, seemingly expected by governments and advocates for such behaviour.

I will suggest a model for discussion within the paper session, which attempts to delineate how competitively driven resource alignment may sit alongside the requirement to demonstrate new forms of legitimacy to new providers of resource. This early approach to theorising the developing HE context should help HE practitioners and decision-makers to understand more clearly some of the current complexity, and enable them to search for innovative strategic approaches to dealing with a rapidly changing universe. Comments and discussion from within the session will inform the design of a project to take the research further.


Can statistics be fun? The benefits of incorporating research elements into MBA courses

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Abstract: Quantitative methods and statistics are key components in higher education. Despite various attempts and carefully designed textbooks, statistics courses are often considered to be number-crunching subjects with limited applicability to real life. Particularly at the MBA level, a form of segregation is quite apparent; namely, students have difficulties applying their statistical knowledge in everyday business scenarios. We present a particular educational methodology that has proven to be successful in immersing participants in the process of data collection and analysis, via giving them first-hand experience at an organization. A further important element of our approach lays in the collaboration with external organizations, which in turn enhances networking and supports the exposure of students to management level problems, highlighting the practical relevance of statistics courses. Finally, the recommended methodology is flexible enough in that it can build on the particular research interests of faculty members, thereby reducing the trade-offs between teaching and research.

Introduction

In the current trends of globalization, with ongoing expansion of multinationals into novel markets, along with the rapid technological advancements characterizing the past decades, managers responsible for organizational success find themselves facing markets of increasing diversity and business environments of escalating complexity (Olsen & Boxenbaum, 2009; Schuh, 2007). Business school graduates need to be prepared for such rapidly changing international markets. In turn, business schools cannot escape from addressing these trends in their curriculum and offerings, and realize the modified expectations and demands of their prospective students and their future employers. As a relatively easy and quick ‘fix’, many institutions have increased the practical and action learning elements in their programs (Garvin, 2007), included numerous case studies (Conger & Xin, 2000), and found various ways through which to internationalize their curricula (Koles & Voros, 2011).

Despite these modifications and the overall evolution of content and methods, many business schools continue to face external as well as internal challenges and pressures. The primary criticisms tend to bring their overall relevance into question (Schiller, 2011), suggesting that there is too much emphasis on the theoretical as opposed to the practical (Bennis & O’Toole, 2005), which can result in constant trade-offs for faculty, and suboptimal and even potentially negative outcomes for students (Loyd, Kern & Thompson, 2005). The very structure of the business academia appears to be at fault, with the overall system reinforcing this cycle (Schiller, 2011). In the field of education in general, it has been suggested that learning has to be viewed in context, moving beyond measures that are too narrow, continuously emphasizing the real world and practice (Collins, Joseph & Bielaczyc, 2004).

In the current study, we intend to address some points associated with the theory – practice divide, highlighting certain issues that may be potentially problematic for business schools. We propose an approach that creates a bridge between research and teaching for the faculty member, and one that supports the practical and hands-on experience for the student. Although some ideas may apply to a variety of subject matters, for the purposes of the current paper, we are going to focus on courses in the quantitative field.

Business Education Today

Relevant and up-to-date offerings and curriculum content are key elements to success for institutions in the current highly competitive educational market. While many institutions may realize the need to update their curriculum, such task is by no means an easy endeavor. On the one hand, curricular changes tend to be brought upon by the faculty themselves, who for the most part are the ones responsible for the review, assessment, and modifications associated with their institutional program content. However, the overall relevance of academia in business has been brought into question by numerous recent critiques. For
example, it has been suggested that business schools in general are on the wrong track, and failures in their curriculum are to be blamed for the insufficient managerial skills and practical training of their graduates (Bennis & O’Toole, 2005). Core faculty staff has limited contact with organizations and real-world experience, and thus, they themselves may have difficulties with applying theory to relevant and timely practice (Hambrick, 2007). The case study method has been developed partly for this purpose, with the intention of bringing real business problems into the classroom. However, using case studies efficiently requires a certain set of skills to tackle the complexity, which may not be obvious at all, at least not without sufficient and extensive training (Koles & Voros, 2011). Given that few higher educational institutions provide pedagogical development opportunities associated with successful and high quality instructional methods in general (Gioia & Corley, 2002), training on the use of the case study method is likely to lag behind even further.

Many blame the scientific model for this failure in terms of adequate curriculum content and delivery at business schools, and the associated constant need for faculty to juggle between their teaching and research activities (Schiller, 2011). From the student perspective, research conducted at business schools in general may be advantageous, even in monetary terms (O’Brien, Drnevich, Crook & Armstrong, 2010). However, the overemphasis on scientific rigor as the primary element of success and recognition tends to place various constraints on faculty members, often imposing trade-offs between their activities (Loyd, Kern & Thompson, 2005). Regardless of their generally considerable teaching loads, most faculty members are selected by their universities on the basis of their research rather than teaching. In terms of their training and educational backgrounds, most professors dominating business school faculties tend to be research oriented, and naturally, tend to emphasize the theoretical over the practical (Bennis & O’Toole, 2005). Many believe that business school structures further emphasize this scientific tendency, by schools deciding about promotions on the basis of academic articles rather than those appropriate and interesting for managers, and by accrediting bodies focusing on numbers of citations and journal entries as an assessment of value and worth (Schiller, 2011).

With all these above mentioned challenges in mind, it is important to note that modifying the curriculum can be a quite lengthy endeavor. Once agreement has been reached within the faculty body, further relevant university-wide constituencies need to be consulted and their approval sought, relevant accreditation documents need to be revised and resubmitted, marketing and sales staff need to be involved and trained appropriately, and overall recruitment cycles need to be considered. In sum, these relatively more substantial modifications may take years. Given the extensive competition among schools for the best students, certain intermediary methods may be of great assistance; those that can be applied and implemented with more ease and less planning and preparation. While the more substantial points can be addressed in the meantime, considering the general timeline and academic cycle of large scale content revisions, more incremental options may provide an available and immediate alternative for faculty members wishing to innovate certain elements of their course. It is this particular segment where we wish to make a contribution in the current paper, by suggesting some ways in which to make traditionally quite theoretical courses more practical. In the next section, we review our proposed methodology, with particular emphasis on helping other instructors adopt similar practices.

Educational Methodology

As a general principle, education can be viewed as successful if it creates ‘expert learners’; students who enjoy learning, and know how to seek out information themselves (Brown, Ellery & Campione, 1998). In turn, teachers can be viewed as successful if they create a learning environment for their students in which they can initiate, explore, and share new ideas, as well as create and present various outputs and products to interested external parties (Collins, Joseph & Bielaczyc, 2004). Specifically in the case of quantitative subjects, research revealed advantages associated with hands-on activities (Cobb, 1993), with students being positively motivated in situations where they handle and analyze personally collected primary data (Bradstreet, 1996; Gordon, 1995).

Our own particular focus on courses with quantitative emphasis are two-fold; first, in addition to the above mentioned challenges in overall management studies, quantitative methods are characterized by a general lack of sufficient available and relevant case studies, often further limiting an integrative view and understanding of problems and relevant practical applications. And second, it is quite common to encounter various levels of resistance and often even fear on behalf of students towards analytical rigor in management courses (Francis, 2009). According to a more constructivist learning approach (Tsao, 2006),
statistical methods should be viewed as a tool for understanding a wide array of decisions and real world scenarios, rather than simple number crunching exercises with no or very little direct relevance to the real world.

Throughout our experience with teaching quantitative courses, we noticed certain trends. First, it appears to be quite hard to find an appropriate textbook that covers the right amount of material, particularly for the purposes of business school, and even more specifically MBA students. Most MBA students will only have time in their curriculum for one single course on this particular topic. Yet most textbooks, even the ones targeting a business school audience, tend to incorporate a wide variety of topics, ranging from very basic to very advanced tools, over hundreds of pages. Second, these textbooks generally cost a large sum of money, which is an important consideration, particularly given that most MBA courses will only cover a relatively small portion of the whole text. And third, as mentioned above, due to the generally limited scope of case studies in the field of quantitative analyses, we found ourselves struggling with assigning our students the required reading and collection of materials that would be appropriate for their needs.

After repeated attempts to follow textbook materials, we decided to develop our course content more from scratch, incorporating our experience with various textbooks and the limited available cases. Furthermore, we found it quite frustrating to not be able to bring more practical examples to the classroom. Analyzing real life data is a step in the right direction, but when the instructor is required to provide most of the background information, as well as the data itself, the extent of learning and first-hand experience of students become greatly limited.

Based on our extensive research and reading about constructivist instructional practices, we decided to apply some of the elements to our own teaching methods. Key constructivist practices include knowledge transfer; modification of frame of reference through experimentation; and implementation of cooperative learning (Papert and Harel, 1991). In terms of further elaboration, reflecting on the constructivist framework, Lebow (1993) proposed a list of “… seven primary constructivist values of collaboration, personal autonomy, generativity, reflectivity, active engagement, personal relevance and pluralism” (1993, p.5).

Following the above approach, instead of exposing students to more traditional ways, we wanted them to learn quantitative skills through their own data, their own analyses, and having certain professional elements that would make it even more likely to replicate a business scenario. We began to construct our entire course content in a way that would conclude in a grand project as the final output, established solely by the students, and most elements would build around this end product. The professional component would come from the interactions with an actual organization. In terms of a generic area of research, we have used assessments of organizational climate and strategy development processes in the past; although the options here clearly are endless, and should depend on the expertise and the interest of the given faculty member. Incorporating their previously acquired knowledge in other MBA courses, prior work experience, and if necessary a few optional yet relevant and informational supplementary articles, we find that students can acquire all the information necessary for such a project easily. For a more detailed understanding of this approach, we provide a three-stage review of activities in Table 1.

As part of the course, students need to carry out interviews, gather survey information, as well as conduct statistical analyses of varying complexity on their own dataset. These individual data sets serve as the basis of the descriptive portion of the project, as well as provide an element of the aggregated dataset generated by the entire classroom, and used later on in the course for more advanced statistical analyses.

Students have the option of doing a variety of analyses, ranging from relatively simple ones all the way to quite advanced methods, depending on their choice and general ability. Certain basic requirements are outlined in line with the minimum expected learning outcomes, but generally a substantial amount of freedom is given to students who wish to explore and experiment with more complex associations. Furthermore, depending on the extent of diversity associated with organizational profiles in the given samples, various comparative analyses can be conducted. We expose students to different statistical packages, including Excel and SPSS, and while we encourage them to acquire at least a basic usage level on all presented software, we allow them to choose the particular application of their preference for their own analyses. In addition to the more descriptive portion of their own company analysis, students are placed in teams of 4 to 6 members, based on some basic trends such as culture, in case the organizations come from various geographies, or industry, in case there is a good representation of various industries in the overall class sample. Each team is then requested to conduct some more advanced comparative analyses. A certain portion of their final paper is constructed on the basis of the group analyses, which then
they need to reiterate to their individual organization. We find that this particular approach, incorporating a cooperative element, helps all students to get a good handle of various analytical tools, as it is in their interest to understand whatever is done in their team fully to later be able to apply the findings to their own work. We find that students often are the best guides to their peers, and are more than willing to help each other out in group settings. Finally, at the end of the course, each student is required to present his or her findings back to their participating organization, in the form of an executive summary, highlighting the most important points in a professional document.

Table 1. Overview of Operational Steps

<table>
<thead>
<tr>
<th>Initial Preparation</th>
<th>Mid-course</th>
<th>End-course</th>
</tr>
</thead>
<tbody>
<tr>
<td>Select survey</td>
<td>Data collection</td>
<td>Group analysis</td>
</tr>
<tr>
<td>- Select previously validated survey(s) of interest (with max. 20-25 survey items)</td>
<td>- Distribute surveys</td>
<td>- Combine entire sample of data (omitting names of organizations to ensure confidentiality)</td>
</tr>
<tr>
<td>- Focus on surveys that may be of interest to students and organizational management as well (such as organizational climate, leadership or assessment of information flow)</td>
<td>- Ensure that students regularly monitor response rates</td>
<td>- Request more advanced methods like ANOVA and regression</td>
</tr>
<tr>
<td>- Survey should be complex enough to require ANOVA or regression type analyses and predictions</td>
<td>- Conduct first-level descriptive analysis</td>
<td>- Students develop papers and/or presentations</td>
</tr>
<tr>
<td>Prepare students</td>
<td>Descriptive analysis per team/individual</td>
<td>Company Executive Summaries</td>
</tr>
<tr>
<td>- Distribute survey validation paper and other necessary support materials</td>
<td>- Conduct first-level descriptive analysis</td>
<td>- Individuals / teams create company specific executive summaries</td>
</tr>
<tr>
<td>- Form teams if necessary</td>
<td>- Prepare short summaries</td>
<td>Evaluation / Review</td>
</tr>
<tr>
<td>- Select organizations</td>
<td>Evaluation / Discussion</td>
<td>- Review of group analysis and executive summaries</td>
</tr>
</tbody>
</table>

Benefits

From the perspective of faculty members, this set up provides a good way to utilize at least certain elements of one’s research and particular interests, and indirectly provide students with useful insights. Furthermore, by having to directly involve students in particular aspects of the research itself, faculty is encouraged to give particular consideration to the immediate relevance and application of his or her work to a group of experienced practitioners; as well as receive valuable feedback from the audience. Finally, by spending more time with applications of research in the classroom setting, the divide between teaching and research should not need to remain so prevalent. From the perspective of students and participants, by taking ownership of an entire consulting-type project, and learning the relevant methodological tools from the view of support mechanisms as opposed to being the central theme of instruction, students can acquire and enhance various skills within the same context. Also, as mentioned above, the practical elements embedded in this approach may help individual faculty members to serve their students better, regardless of the nature and extent of practical orientation in their overall institutional program curriculum. And last, but certainly not least, from the organizational perspective, it tends to be relatively easy to solicit the participation of companies for smaller scale projects of these sorts, given their direct short-term benefit at a relatively low cost in terms of time and input. Should these projects turn out to be successful and well received by certain organizations, longer-term future cooperation opportunities between universities and participating firms may arise.
From the methodological point of view, we describe the benefits of our approach based on the constructivist set of instructional principles, building on the framework proposed by Savery & Duffy (1995), presented in Table 2.

<table>
<thead>
<tr>
<th>Instructional Principles</th>
<th>Our Approach</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anchor all learning activities to a larger task or problem.</td>
<td>The grand project is not just ‘assigned’. Participants discuss the purpose of the research in the appropriate context, as these surveys focus on management level issues in real organizations.</td>
</tr>
<tr>
<td>Support the learner in developing ownership over the overall problem or task.</td>
<td>The goals the learner brings to the environment (i.e. to become a high level manager or consultant) are made consistent with our instructional goals by moving the scope of the project and all associated analyses from the classroom to real life organizations.</td>
</tr>
<tr>
<td>Design an authentic task.</td>
<td>The cognitive demands of the task are appropriate for our target environment (i.e. MBA studies). We are also not advocating the mere study of science – in this case statistics – for its own sake, but instead we encourage students to engage in a problem solving situation (e.g. by asking: how can we enhance organizational climate at a given organization?)</td>
</tr>
<tr>
<td>Design the task and the learning context to reflect the complexity of the environment, and in turn ensure that learners gain the ability to function in that setting appropriately by the end of the learning process.</td>
<td>The environment is not simplified and reduced to an individual set of data created for a single purpose. Furthermore, the complexities of the task are carefully monitored and controlled by selecting an appropriate survey that is relevant to explore in a business setting.</td>
</tr>
<tr>
<td>Give the learner ownership of the processes utilized in order to develop a solution.</td>
<td>Learners gain ownership of the task through their first hand exposure to organizational problems and complexities. In particular, in addition to the minimum requirements associated with statistical analyses, students tend to engage in a variety additional tasks in order to uncover issues at their organizations. Some will conduct further interviews, while quantitatively more inclined students may use complex statistical tools to find problems and propose solutions.</td>
</tr>
<tr>
<td>Design the learning environment to support and challenge the learner's thinking.</td>
<td>While key statistical methods are practiced and discussed, the instructor’s role in this case is to be both a consultant and coach, providing guidance in the analysis of the given organization. The instructor may not have the solution for all organizational problems uncovered by the student, which is perfectly normal and part of the learning experience.</td>
</tr>
<tr>
<td>Encourage testing ideas against alternative views and alternative contexts.</td>
<td>The collaborative elements (both the forming of teams and conducting discussions / interviews with the management of the selected organizations) emphasize the presence of alternative views and contexts.</td>
</tr>
<tr>
<td>Provide opportunity for and support reflection on both the content learned and the learning process.</td>
<td>Throughout the project, there are regular discussions concerning the content learned and the learning process. As an example: at the end of the data collection phase, students realize the issues present in this process and also understand why they should be aware of these problems prior to the data analysis phase. This awareness also encourages adequate prior planning, which may not be obvious when using secondary data.</td>
</tr>
</tbody>
</table>

While measuring the outcomes discussed in Table 2 is a complex endeavor, the usual class satisfaction surveys were completed at the end of the class. Additional open ended questions were asked in relationship to the survey method applied. We report some of the responses for informative purposes (see
Table 3). What is particularly important to note is that many of these comments are in contrast to comments received in prior years.

Table 3. Responses to Class Satisfaction Survey Item: Identify the best elements of the course

<table>
<thead>
<tr>
<th>No</th>
<th>Statement</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>This course was very informative and really taught us to apply the tools in practice.</td>
</tr>
<tr>
<td>2</td>
<td>The survey assignment was very useful.</td>
</tr>
<tr>
<td>3</td>
<td>It involved practical information (current surveys), and specialized tools and processes (Excel regression, etc.), which I found to be of value.</td>
</tr>
<tr>
<td>4</td>
<td>The practical application of the methods we learned.</td>
</tr>
<tr>
<td>5</td>
<td>I think having a project really helps to understand the material and it was very helpful.</td>
</tr>
<tr>
<td>6</td>
<td>During the course I could get a practice to work with SPSS software and good assignment exercises to interpret data and graphs.</td>
</tr>
<tr>
<td>7</td>
<td>We learned how to analyze data in real life which is significant in our business world where everything is based on information.</td>
</tr>
</tbody>
</table>

Discussion and Implications

Business schools today appear to be trapped in a cycle from which it is hard to escape. The current pressures from the global market make it inevitable for them to change in order to stay competitive. Criticisms bringing business schools’ relevance as a whole into question keep increasing (Schiller, 2011). Schools may need to revise the overall system that guides their basic principles and foundations, building on the extensive emphasis on research and science as opposed to practice and teaching (Bennis & O’Toole, 2005). Many want to advance and revolutionize their curriculum, but find it quite difficult to do so, either because of the complexity of the task, or the reluctance of their faculty body. The deans at many accredited schools increasingly need to justify their faculty and research activities, in terms of their relevance to management (Schiller, 2011).

The answers to these questions and to these trends will reveal themselves in due course. However, in the meantime, there are a lot of things individual faculty members can do to assist their institution in their quest of more practical and more relevant instruction, and serve their students better by preparing them to their real life careers. In the current paper, we have proposed a particular instructional method which we applied in quantitative courses, with the aim of encouraging faculty members to take the initiative and implement similar methods themselves. The benefits to all members are clear, however difficult they may be to document based on a relatively small group of participants. Faculty members do not have to clearly separate their research activities from their teaching, students can gain first hand exposure to real business encounters and perhaps even gain later access in the form of internships or job opportunities, and finally, firms can benefit from engaging in academic activities that may result in further collaboration.

While these smaller scale techniques do not address the bigger picture associated with overall relevance of business school curriculum content, or adequate preparation of students for the real world, they do provide individual faculty members with ways in which to overcome certain apparent struggles in their everyday professional lives. Should a growing number of instructors adopt similar techniques to their course offerings, the overall practical experience of students would be greatly enhanced. Furthermore, involvement with organizations may also encourage the necessary flexibility on behalf of faculty members towards a more open and practical orientation.

Limitations and Future Work

The primary limitation of the current proposed project lays in the fact that specific evaluation and assessment tend to be quite challenging. First, conducting surveys of student learning may not reveal the full picture. On the one hand, general student evaluations do not seem to capture all the practical elements that are novel in this current approach. On the other hand, research showed that indirect knowledge surveys of perceived knowledge do not necessarily correlate with actual knowledge, indicating that merely asking students for what they think they know may be insufficient (Price & Randall, 2008). Second, this quite exploratory approach utilized a variety of tools, including textbook materials, statistical software packages, individual and group projects, and organizational analyses, and to capture all of them in a single survey seems rather hard. Third, it is impossible to test systematically and empirically the difference between the
success of our proposed approach with ones that may be more traditional in nature, given that we cannot give the same group of students both. And forth, some of the actual benefits mentioned above, such as potential student internships or employment, as well as the university-company partnerships may only be advantageous in the longer term, not immediately after the course itself.

Nevertheless, additional measures would be necessary and beneficial. Future courses using this method should establish some evaluative tool to be administered to students at the beginning and conclusion of their work. Given the difficulties associated with quantifying potential learning outcomes, open ended questions that are more qualitative in nature may be advantageous. Students, for example, may be prompted to provide some comparisons with their undergraduate-level experiences with quantitative instruction, and describe their overall assessment. Questions could target certain elements associated with the data collection, the data analysis, and the organizational cooperation. After the evaluation of a sample of different groups, certain meaningful trends and patterns may arise.

References


Reviewers of EDINEB 2011 (in alphabetical order)

Chris Birch (University of Greenwich, UK)

Peter Daly (EDHEC, UK)

Bas Giesbers (Maastricht University, the Netherlands)

David Laughton (Sheffield Hallam University, UK)

Xavier Parisot (Champagne Graduate School of Management, France)

Jakob Ravn (Copenhagen Business School, Denmark)

Sandra Reeb-Gruber (Hogeschool Inholland, the Netherlands)

Stephen Reeve (University of Brighton, UK)

Bart Rienties (University of Surrey, UK)

Dirk Tempelaar (Maastricht University, the Netherlands)

Herman van den Bosch (Open University, the Netherlands)

Sergio Vasquez Bronfman (ESCP Europe Business School, France)
General Members Meeting EDINEB Thursday 9th of June 2011*

Agenda and time schedule

18.00-18.05  1. Announcements
A. Points from the Members

18:05-18:20  2. Explanation of structure of new EDINEB association (Sandra Reeb-Gruber)
A. Membership and voting power
B. Renewal of Management Board 2012

18:20-18:35  3. Financial situation of EDINEB 2010-2012 (Bart Rienties)

18:35-18:40  4. Vacancies
A. Treasurer in Management Board
B. Track chair(s)
C. Reviewer(s)

18:40-18:50  5. Overview of research findings of expectations EDINEB participants 2008-2011

A. Future challenges (Bart Rienties)
B. ABET (Piet van den Bossche)
C. Direction of EDINEB focus (Peter Daly)
D. Collaboration with other associations (AEEE, SPACE, Economics Network, Sandra Reeb-Gruber)


19:25-19:30  8. Round-up questions

*Only members that have registered via https://www.regonline.co.uk/EDINEB2011 and have received confirmation of their registration are invited for this meeting. During and after the meeting, some drinks and snacks will be served.
Advances in Business Education and Training

Call for chapters from EDINEB 2011

Advances in Business Education and Training is a book series that aims to foster advancement in the field of Business Education and Training. It serves as an international forum for scholarly and state-of-the-art research and development into all aspects of Business Education and Training. It will not only publish empirical studies but also stimulate theoretical discussions and address practical implications. Reviews of important developments in the field are encouraged. The editors welcome contributions in which a line of reasoning is illustrated with experiments, design-based studies, best practices, and theory development. In addition, the editors encourage submission of new ideas for business education and training, papers that are not necessarily empirical in nature, but describe interesting new educational tools, approaches or solutions.

The book series will accept articles on topics such as
- design of learning methods (project-based learning, action learning, problem-based learning),
- research on learning (student learning, motivation, assessment, learning outcomes),
- staff development,
- curriculum design (curricular comparisons, program evaluation),
- professional development (expertise development, executive education, training and development), and
- links between business education and corporate world (alliances, integration of work experience and workplace learning).

It is aimed at all those committed to the improvement of business education, and training and development; educational researchers and educators or trainers in the fields of business, management, accounting, and related disciplines.

Titles in this Series
- The power of technology for learning. Editors: Barsky, N.P.; Clements, M.; Ravn, J.; Smith, K.
- Real learning opportunities at business schools and beyond. Editors: Daly, P.; Gijbels, D.

Call for chapters
You are invited to submit your manuscript to be considered for publication in a Volume of Advances in Business Education & Training. All submitted manuscripts will be reviewed by at least two reviewers on a blind review basis. Authors are requested to submit their papers electronically by using online manuscript submission available at: http://www.editorialmanager.com/abet/. This site will guide authors stepwise through the submission process. The deadline for submission is September 1, 2011.
During the last few years economics and business education have emerged as one of the largest fields of study in higher education. Simultaneously, the pressing concern for improving the quality of higher education in these fields has led to a definite need for more knowledge about effective instruction methods and tools, as well as about innovation (in terms of both methodology and contents). This has been the background to establish a network to disseminate the results of the efforts undertaken by researchers and professionals in the field of educational innovation. "EDiNEB", established in 1993, is such a network.

The acronym EDiNEB represents two entities: the EDiNEB Network and the EDiNEB Association, where the prior is an international network/association of people and/or institutes that are considering the implementation of educational innovations in economics and business and the latter is a legal personality under Dutch laws registered in Haarlem.

The general aim of the EDiNEB Network is to provide mutual support to member institutions who wish to adapt their curriculum to highly innovative programmes. There are three primary goals: strengthening of membership institutions in their realisation of innovative programmes; strengthening of faculty capacities related to innovative education; development of technologies, approaches (such as problem-based learning), methodologies and tools appropriate to curricula; emphasising applied economics to domestic situations, or curricula especially designed for developing countries focusing on (local) societal needs, or curricula with an orientation to skills training; problem-solving or professional practice. Strategies to achieve these goals can be summarised as follows: Emphasis on institutional support and capacity building through exchanges, dissemination of information, improved communication and publications; Emphasis on partnerships between universities; Focus on research and development, in particular regarding questions of relevance to education in economics and business administration.