Enquiry based learning and undergraduate teaching

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A showcase from the Centre for Excellence in Enquiry-Based Learning

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What changed?...OMT

• Organisations, Management and Technology

• Level 2, two semester, 50 students

• Assessment: 50% exam + coursework

• EBL ➔ Redesign of seminars and coursework
What changes for the student?

- Students put in a scenario with guiding boundaries
- Students required to formulate their own research topic
- Students examine the resources they need to research the topic and acquire knowledge
What changes for the student?

• Learning is student centred, with an emphasis on group work, time management and organisation

• Students apply what they know in a real scenario
What changes for us?

• Teaching role is different
  – Facilitator (direction)
  – Tutor (encouragement)
  – Advisor (reality check)
  – Co-ordinator (conflict resolution)

• Teaching process is different
  – More up-front planning
  – Alternative modes of assessment/reflection
How?...the scenario

• Open-ended, flexible, underpinned by theory and concepts, rigorous but do-able

• **Scenario** of being a technology management team advising the board of directors
How?....establishing boundaries

- Random student teams: 4/5 members
- Randomly allocated firms
- Select chairperson and delegate tasks
- Minute-taker/diary recorder
- Availability of tutor
- Assessment
How?...seminar series

Supervised seminars:

• Offer direction (research skills)
• Stage gates/eat an elephant
• Structure: WIP presentations, class interaction, group work

Unsupervised seminars:

• Timetabled opportunity to progress
• Peer learning
How?...supporting framework

**Who** are the firm’s competitors and what are their strengths and weaknesses?

**Who** are the stakeholders likely to affect and be affected by the adoption and diffusion of this technology?

**What** are the firm’s capabilities?

**What** are the uses of the technology?

**What** can be done to control the negative effects of this technology?

**What** is the firm’s main business?

**What** benefits does this technology bring along? (economic-social-environmental impact)

**How** can the firm evaluate across positive and negative economic/social/environmental criteria points and make a final decision?

**How** can you support your findings with innovation studies theories?

**Which** technology(ies) can help to meet these opportunities and challenges?
How?...assessment

• Conventional assessment (argument & structure of the report, etc)
• Group mark for the report, adjusted according to individual contribution
• Conflict resolution: written reflective statements + observations of tutor + interviews
Defining contribution

An internal matter, revealed when conflict un-resolved:

• work ethic, commitment to the team & team work (e.g. prioritising, sacrificing);
• communication (e.g. e-mail, phone) and
• reliability (e.g. group meeting participation);
• co-ordination and organisational ability (arranging meetings/ensuring progress of report);
• quality of work
Well?...evaluation

• Students performed well on project (in 2009, mean 65%, range: 55-85)

• Feedback through three channels:
  – Anonymous qualitative module-specific questionnaire
  – Anonymous quantitative university satisfaction questionnaire
Qualitative student feedback
(module specific survey)

• “...good learning project, a very useful, knowledge enhancing, valuable experience...”

• “...drew together theory and practice in a real life situation...”

• “...[it] puts the entire course information into context and shows applicability...”

• “...[the structured seminars] give a lot more incentive for you to attend i.e. you feel you have a responsibility not to let your team down...”
## Quantitative student feedback: University satisfaction survey

<table>
<thead>
<tr>
<th>Statement</th>
<th>OMT 2009</th>
<th>OMT 2007</th>
<th>MBS 2009</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teaching I received was excellent:</td>
<td>1.48</td>
<td>1.39</td>
<td>0.96</td>
</tr>
<tr>
<td>Skills I developed will be valuable:</td>
<td>1.33</td>
<td>0.86</td>
<td>0.95</td>
</tr>
<tr>
<td>Feedback I received on my work was helpful:</td>
<td>1.30</td>
<td>0.75</td>
<td>0.36</td>
</tr>
<tr>
<td>Teaching/support staff were readily approachable:</td>
<td>1.48</td>
<td>1.32</td>
<td>1.04</td>
</tr>
<tr>
<td>I have increased my knowledge of the subject matter:</td>
<td>1.60</td>
<td>1.29</td>
<td>1.23</td>
</tr>
<tr>
<td>Teaching staff responded to questions about the subject matter:</td>
<td>1.48</td>
<td>1.36</td>
<td>1.04</td>
</tr>
<tr>
<td>Seminars enhanced my understanding of the subject:</td>
<td>1.34</td>
<td>-</td>
<td>0.75</td>
</tr>
<tr>
<td>I would recommend this course to other students:</td>
<td>1.34</td>
<td>0.9</td>
<td>0.86</td>
</tr>
<tr>
<td><strong>Mean score</strong></td>
<td><strong>1.35</strong></td>
<td><strong>1.13</strong></td>
<td><strong>0.92</strong></td>
</tr>
</tbody>
</table>

Table 1 Evaluating OMT 2009 (EBL year 2) vis-à-vis MBS UG average 2009 and OMT 2007 (pre EBL)
So what?

- EBL enhanced the learning process
- Student feedback suggests:
  - engaged better with the subject, applying what they’d learnt;
  - improved their team work and management capabilities;
  - felt ownership of their group report and demonstrated uncompromising attitude to ‘free-riding’.
- By and large, the EBL process averted conflict….where it did occur, the conflict resolution procedure was an important mechanism
- Able to apply method to other courses at UG/PG level
Acknowledgements

• CEEBL first introduced me to EBL, offered training on many aspects of EBL process and were an important sounding board throughout the design and implementation process.

• For more information on CEEBL:
  - Web: http://www.campus.manchester.ac.uk/ceebl/
  - Tel: 66440
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Thanks for listening....

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Scenario of the OMT report

- You are a technology management team. You are advising the Board of Directors on the technology strategy of the firm. You have been asked to produce a report on the following issues:
  - the drivers for change in the industry;
  - the role of technology in responding to change; and
  - the opportunities and challenges of adopting/developing a specific technology.

- The report should draw recommendations (supported by an appropriate theoretical framework) for the firm about whether to invest in a specific technology or not.