An inquiry based approach in a first year undergraduate class

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With acknowledgement to others in the Inf106 teaching team (Andrew Cox, Philippa Levy, Peter Stordy) and BSc IM students
Outline

• Inquiry Based Learning at Sheffield University
• BSc Information Management
• Inf104 Information Literacy
• Inf106 Inquiry in Information Management
• Conclusion
“IBL is a term used to describe approaches to learning that are based on a process of self-directed inquiry or research. Students conduct small or large-scale inquiries that enable them to engage actively and creatively with the questions and problems of their discipline, often in collaboration with others. IBL approaches include case-study and problem-based learning (PBL) methods as well as research projects of different kinds. It is a key characteristic of IBL that inquiry tasks facilitate exploration and investigation of issues or scenarios that are open-ended enough for different responses and solutions to be possible (Khan and O´Rourke, 2005)” cited http://www.shef.ac.uk/cilass/ibl.html
IBL: a strategic focus

The ‘Sheffield Graduate’

“Studying at Sheffield will provide students with the opportunity to... become involved in inquiry-based learning, as a means of actively engaging with the questions and problems of their discipline and of developing a range of inquiry-related capabilities and skills”

*University of Sheffield Learning, Teaching and Assessment Strategy, 2005-10.*
Centre for Inquiry based Learning in the Arts and Social Sciences (CILASS)

“Modelling the process of research within the student learning experience”

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CILASS

- Centre for Excellence in Teaching and Learning
- Core community: Faculties of Arts, Social Sciences and Law
- New teaching spaces, some core staff: but mostly focused on developments with academics in modules (by February 2007 – 70 modules in 20 departments/schools.)
- Aiming to make “a major contribution towards strengthening the links between research and teaching at UoS”
- CILASS Fellowships
- http://www.shef.ac.uk/cilass/
CILASS IBL framework

- Collaborative inquiry and inquiry communities
- Information literacy development
- Networked learning
- Interdisciplinary inquiry
- Classrooms as research environments (‘collaboratories’)

Information literacy: “knowing when and why you need information, where to find it, and how to evaluate, use and communicate it in an ethical manner” (CILIP).
BSc Information Management
Background

• Aims for strengthening IBL approach:
  – Help students deepen their engagement with, and understanding of, Information Management (IM) as an academic discipline and professional practice
  – Give students an opportunity to develop their research understanding and skills
• C. 20 students; Varied backgrounds; Predominantly home students
Issues with discipline/ course

- Anyone here know what Information Management is???
- There are no IM A-levels or Highers in IM
- Contested discipline
- Investigations (NSS + our own) showed issues with UG subject engagement & lack of awareness of research impact
Departmental background

- Blended learning: Use of WebCT ("MOLE") for discussion boards, student ppts, focus of class/lab exercises, class materials + other tools
- Introduction of concept mapping in semester 1
- Team teaching
- Research experts teaching at level 1
- Strong practitioner links
- Already PBL and IBL approaches
- Department is research led
- Educational Informatics research group
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Individual mindmap

Photographed & uploaded to WebCT

Group mindmap, presented and discussed in class

INF106 Inquiry in Information Management

Non Management

Module documentation

Student journals for portfolio

Week by week

Research glossary

Research resources

INF106 forum

WebCT aka “MOLE”

Blogs

You will carry out a piece of Information Management (IM) research, carrying it right through to producing a poster which explains your research results. The posters will be displayed in a session with all the students (including the Head of Department).

What you will do on the module:

• Learn more about what IM is
Evaluation

- Student work (including reflective work & material generated in class; inc. blogs, mindmaps, captures), marks & attendance records
- Interviews/focus groups with tutors & (inf104 to be completed) students
- Tutors reflections (notes, blogs, emails & (Inf104) e-portfolios)
- Other evidence of various kinds (photos, transcripts etc)
Inf104: Information Literacy (core, level 1, semester 1)
Second Life

- 3-D Online Digital world
- Most things created by SL residents: SL fashion designers, architects, bakers, animal makers ....
- Avatars- 3D representation of yourself – free to signup and can live on freebies, but need Linden dollars if want to own land, buy clothes etc.
- Communication through text chat, Voice and Instant Messaging
- No student had used virtual world before (nb SL main grid is 18+ only)
Inf104: Information literacy

• Module aims
  – to progress students' information literacy in key areas (working towards being an information literate citizen)
  – to develop their understanding of information literacy & information behaviour theories and practice

• Assessment
  – Website/article/book review
  – Analysis of & reflection on research interviews in Second Life
  – Reflection on their progress in relation to the SCONUL 7 Pillars of Information Literacy
Specific project aims  
(changes for 2007/8)

- Investigating SL as learning space
- Focus in more depth on specific parts of research process (data collection & analysis)
- Strengthen theoretical element of module with genuinely novel investigation
- CILASS funded cost of SL island for 1 year and provided support in evaluating use of SL

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Inquiry in SL

- Students undertook critical incident interviews with SL residents (a time when they had an information need relating to a SL activity) in SL itself
- Assessment: Students analysed transcripts in relation to models of RL information behaviour + audited interview technique
- Class activity over 3 weeks – group research/presentations on whether SL was dangerous
- Induction to basics of SL over several weeks
- Practice interviewing in real life & SL

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Reflections on changed elements of Inf104

• SL a learning (and play) space – more like a classroom space than a website – with new possibilities
• Students won’t automatically be engaged with SL: pedagogic rationale needed
• There is a learning curve, even for gamers (but does have fun factor)
• Wider range of interviewees than possible in Real Life (students in Canada, educators/librarians in various parts of world)
• Reasonable to excellent analyses of interview transcripts
• Some insightful comments on interviewing in SL; richer than for previous year’s (RL) exercise
• For me: stressful but enjoyable
“I'd like to take this opportunity to say I *really* enjoyed doing the interview task - I'd say it made a great use of the advantages of Second Life, connecting to people who might be geographically far, far away, and giving a more personal element to the interaction that plain chat would not have had.”

(student email)
Inf106: Inquiry in Information Management
(core, level 1, semester 1)
Inf106: Inquiry in IM (introduced 2006/7)

• Module aims
  – “This course will develop students’ understanding of Information Management, and through a small piece of real collaborative research they will explore the nature of research and scholarly communication in the field”

• Assessment
  – Group produced poster
  – Individual blog (last year was group blog)
  – Individual portfolio
Information Management

• Groups generate their own research questions
• Work together and with tutors on these small-scale projects
• Interacting with researchers and practitioners
• Collecting and analysing data
• Students generate assessment criteria for posters
• Present posters at research ‘conference’
• CILASS support in evaluation, funding for TAs etc.

Does Facebook support students’ personal information management?

What does mobile phone user behaviour contribute to detrimental environmental effects and how can these be reduced?
Inquiry at Level 1
– Information Management

“So in other words the idea is to give students a chance to teach themselves in some sense and the module staff was making an impression of rather a team of advisors and coordinators, rather than ordinary lecturers.”
“What made us pick this particular topic was that we were all fascinated by something non-one within the department really knew the answer to. Although we were not actually carrying out original research, and someone out there had the facts we needed to successfully answer the question, it was the challenge of finding this that drew us to the idea of [the topic]...
Reflections on Inf106 (2006/7)

“Overall evaluation pointed to positive impact in engaging students with both Information Management and the process of inquiry. The particular highlight, for us, was the quality of many students’ engagement with the inquiry task and the student work that was presented at the mini-conference. Students had successfully defined a research question, gathered primary or secondary data, analysed them and produced effective presentations of the results in poster form. This represented a rounded accomplishment and a level of engagement in research that we rarely demand before the third undergraduate year. All the work was good, and several pieces were excellent.” Cox et al (2008) in press.
Reflections on Inf106 (2006/7)

“Student attendance on the module was high overall, and some workshops in particular generated a high level of interaction amongst peers. Student feedback via a number of channels (focus group, feedback questionnaire, reflective portfolios) was positive, with the new module gaining high scores on questionnaires on every criterion.” Cox et al (2008) in press.

Response to question: How would you guage your level of engagement and motivation in the module? Was it enjoyable?

“One student said it was about the same as other modules, but others said they liked the freedom to choose their own topic, and mentioned again the assessment criteria exercise. They also said they liked the guest speakers who told what it’s like in the real world.” Summary of student focus group by CILASS researcher.
Reflections on Inf106 (2006/7)

“The course has made me realise that there is a large possibility of me pursuing a career within the IM field eventually […] Guest speakers like […] have significantly enhanced my view of the subject and very possibly pressed me into creating a career out of it” (Reflective Portfolio).

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Conclusions
Curriculum design and the research-teaching nexus

Students as participants

**Research tutored**
Curriculum emphasises learning focused on students writing & discussing papers or essays

**Research based**
Curriculum emphasises students undertaking inquiry based learning

Students as audience

**Research led**
Curriculum is structured around teaching subject content

**Research based**
Curriculum emphasises teaching processes of knowledge construction in the subject

Also this – and think we need more

Emphasis on research content

I had felt this aspect needed more attention too in Inf104

Also comes into curriculum

Emphasis on research processes and problems

Area we are focusing on

Diagram: Jenkins et al, 2007: 29

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Conclusions

• Strengthening IBL element does seem to have increased students’ engagement with the subject
• For both modules, improvements for next iteration
• Value of progressing IBL
• Need to address level 2 further as regards research skills & maintaining interest in discipline
• Wait to see impact on level 3 project
• Scalability: physical constraints (rooms & technology) more of a problem than staffing?
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References


• Inquiry in Information Management case study: http://www.shef.ac.uk/cilass/cases/informationmanagement.html
