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Assisting students to participate in Inquiry Based Learning

A. Masson, A. MacNeill, C. Murphy

This workshop aims to provide participants with a hands-on overview of the Hybrid Learning Model developed by CETL(NI), 'Institutional e-Learning Services' (CIES), University of Ulster. It will examine and demonstrate the model, which focuses on processes in teaching and learning and is based of 8 specific ways (learning events) of learning/teaching that a practitioner can use to describe learning activities in plain English whilst highlighting specific teacher-student interactions. Although this model was initially designed to capture and record practice, it has proved valuable in conveying processes in teaching and learning and to help to clarify expectations to students in new learning situations, to include Inquiry Based Learning.

The Hybrid Learning Model has been used with academic practitioners to articulate their learning activities in such a way that it clarifies processes, roles, expectations involved in learning situations taking in both the teacher and learner perspective and their respective roles. This, in turn, can be presented in an understandable format to learners to aid them with their studies.

This workshop will allow participants to apply the model to their own teaching practice and demonstrate how it has been used to enhance the year one experience by helping students to focus on the actual process of learning to encourage independent learning and reflection.

The session will also demonstrate results from an ongoing pilot study on how academic practitioners and students are reacting to and evaluating the use of the HLM as an introduction to learning activities while providing a useful reference framework for participation in new learning situations.

At the end of the session participants will have had the opportunity to:

- apply the Hybrid Learning Model as an effective method of describing teaching and learning activities
- view examples of how modelled activities can help year one students adapt to new learning situation

Aims and objectives

- Discussion regarding articulation of practice
- Introduction to the Hybrid Learning Model (HLM)
- Activity: Using HLM to create modelled activities (supported by prompt cards and a formatted grid to record activities)
- Discussion: Meaningful prompts for learners
- How modelled activities have support University of Ulster course teams and students
- Wrap up discussion

Bad Faith in the IBL Classroom; or, Sartrean Moments Relived and Shared

R. Steadman-Jones

Once in a while, as I wander round the classroom – talking to students, looking at their work – I catch a glimpse of myself as another person might see me. And it isn't always a positive experience. I look like an actor in a schmaltzy movie about an

'inspiring' teacher – not simply being open and engaged with the students but playing the role of the innovative, and, dare I say it, inspiring educationalist.

'Enough!' I want to shout. 'Stop that ridiculous gurning...'
(the 'sincere' expressions used while listening)

'And those weird jabbing hand gestures...'
(signals of intellectual excitement and involvement)

'And that nauseatingly mischievous expression that appears on your face when you introduce some "innovative" activity to your slightly baffled-looking students...'
(who can begin to fathom what that is all about?)

'This is all...it's all just so much...'

And the phrase that comes to mind is 'bad faith', a term of Sartre's that I remember from undergraduate philosophy classes. Maybe my moments of self-criticism are destructively negative. Well, possibly. But taking a frank look at the reality of one's allegedly innovative practice is quite a salutary thing to do from time to time. What is more, Sartre's idea of bad faith has helped me to understand what I am doing in such moments, the point being that he uses the expression in *Being and Nothingness* to describe a state of life in which we fail to engage honestly with either the reality of our circumstances (their 'facticity') or the possibility of change (our 'freedom').

To talk about 'facticity' first, my presentation of myself as innovative may actually serve the function of papering over some big cracks in both the experience of my students and the organisation of educational practice more generally. To reduce the argument to the point of caricature: 'There are vast numbers of students (so how can I really listen to all of them?); I am expecting that they will share certain values that I hold about what makes the humanities intellectually exciting (which, in practice, they may not); and their main concern may be to get a decent qualification with the aim of securing a well-paid job (so they may actually prefer a safe and predictable educational experience to an 'innovative' one). But the good news is that if I gurn and jab and look mischievous with sufficient conviction, no one will notice the cracks are actually there.'

However, if all this sounds pessimistic, the optimistic side of Sartre's thought arises in the consideration of 'freedom'. In particular, the Sartre of *Being and Nothingness* asks us to accept that we can choose to be different if we have the courage. And, for me, the slight sense of loathing induced by the kinds of out-of-body experience described here should catalyse change and not be seen as regrettable moments of moral weakness. In a breath-taking act of hypocrisy, I intend to use some 'innovative' approaches to telling the story of Sartre's manifestation in my classroom and what I learned from it, approaches that will include multimedia technologies, moments of live performance, and even the dying art of writing on a blackboard with chalk. The aim of the whole session is to share the way in which the notion of bad faith has

helped me to question whether my actions in the classroom really are an attempt to face reality and change it.

Outcomes

- a sense of being unsettled and disconcerted
- progress towards a framework for understanding what 'reflection' means
- an opportunity to consider how best to respond to the 'truth' of one's situation
- a certain level of entertainment (possibly...)

Collaborative learning in a Mentoring Module

L. Jenkins, P. Shaw

This paper will examine the ways in which network-building contributes to the creation of communities of learning, taking as its focus a pair of interconnected modules in the School of English Literature, Language and Linguistics at the University of Sheffield. These modules are designed to work together around a process of mentoring of level 1 students by level 3 students. The level 1 module has an emphasis on development of generic academic skills, while the level 3 module focusses on developing theoretical awareness of, and practical approaches to, learning and teaching, which both draws on and feeds into the experiences of level 3 students in mentoring, and, ultimately, teaching, level 1 students.

Taking these modules as a case study, we will consider a number of ways in which the idea of a network is important to the effectiveness of such approaches. We will argue that a fundamental element of this sort of approach (and one which we believe to be important more broadly in higher education) is the development of social networks, and that attention must be paid not only to the overall interconnectedness of individuals within the network, but also to the nature and topology of the network and its connections. We will consider in particular the ways in which the module sought to foster a collaborative approach to learning, not only between students at different levels of study, but also between students and the staff delivering the two modules. We will address a number of strengths of the approach, as well as considering some of the practical and theoretical problems encountered.

This will also involve a broader consideration of these modules as a complex community in which the perceived homogeneity of the student body is continually challenged, not only by the various roles that students play, but also by the ways in which social interactions contribute to adjustments for the individual needs of students. We will consider, among other examples, how speakers of English as a second language interacted with native English speakers within these modules, developing social strategies for navigating the experience of studying for the first time in a foreign country. At the same time, we are also interested in the use of technologies such as virtual learning environments and social networking sites in these modules, and how they might apply more broadly to developing effective social networks.

In drawing together these various aspects of network-building, to understand how they can contribute to developing productive and positive learning interactions, we will consider not only the broader evidence of student evaluation of the experience, but also our own experiences as individuals within these modules, one of us a tutor in

both modules, and one of us a level 3 student mentoring level 1 students. Our paper will therefore form part of an ongoing collaborative dialogue that continues our experience of collaborative learning.

Collaborative Networks that Facilitate Inquiry

P. Taylor, C. Hanley, T. Williamson, S. Spencer, D. Wilding, C. Gibson, A. Cartwright

The core aim of the Reinvention Centre for Undergraduate Research is to 'reinvent' the undergraduate curriculum through the promotion of research-based learning. In so doing, the Reinvention Centre is attempting to re-create the notion of an inclusive academic community where learners, teachers and researchers are all seen as scholars and collaborators in the common pursuit of knowledge. The Reinvention Centre is grounded conceptually and practically in the work of Ernest Boyer (1990) and the Boyer Commission's 'Reinventing Undergraduate Education' (1999), from which the name of the Centre is taken. Through a critical engagement with Boyer's work the Reinvention Centre has developed its own concepts that are having an impact across the sector, for example 'Student as Producer', 'Creative Environments for Learning' and 'Teaching for Complexity'.

We are exploring a number of models for integration of research based learning into the undergraduate experience, intra- vs extra-curricular and staff-led, student-led and collaborative modes. Our belief is that collaborative research networks within curricula provide the most rewarding opportunities, since:

- extracurricular research, while immensely valuable as an experience, is only likely to be available to a small percentage of the huge numbers of students in HE;
- staff-led interventions, such as course or module redesign, though reaching large numbers of students, are likely to be constrained by a certain amount of tradition;
- student-led initiatives, while likely to break out of paradigms, risk being undertheorised.

In this session students and staff from the Reinvention Centre will briefly present their research and comment of the barriers to collaboration, if any, that they are encountering. We shall then invite participants to discuss with us the hypothesis presented here with the aim of identifying ways of overcoming the obstacles to the formation of effective collaborative networks that facilitate inquiry.

'Cultural Academy': a new approach to cultural enquiry

N. Jackson, V. Vydellingum, N. Hutnik

Cultural diversity is a fact of life, especially at the University of Surrey where over 30% of our students originate from over 130 different countries. A higher education that aspires to preparing students for the cultural complexities they will encounter in their professional and personal lives must provide opportunity for learning through

experiences of interacting and communicating with other cultures. Clearly the Surrey experience does this but primarily through students' own social interactions.

The concept of a 'Cultural Academy' was born from this concern and a belief that we could do more to learn from our cultural diversity. Cultural Academy is not part of the formal curriculum. It is a process, founded on the idea of appreciative enquiry that requires voluntary participation from both students and staff. Through a series of workshops, planning meetings and a student-led conference extending over five months, participants (students, facilitators and mentors) share their experiences and understandings of culture and its influences on their lives. The session will describe the infrastructures and enquiry-rich pedagogic practices that have been developed.

Table 1 Infrastructures to support learning

- an on-line social networking space to encourage conversation and the recording and sharing of experience
- a mentoring scheme to support and encourage learning and to validate learning
- a new learning through experience award to value and recognise the learning
- a wiki to support the production and accumulation of knowledge gained through enquiry

Table 2 Pedagogic practices within the process
Cultural enquiry – using

- concept mapping to reveal initial and changes in personal understanding
- cultural enquiry tools – Who am I? What's in a name?
- voting systems – to test propositions and stimulate conversation
- story telling – what cultural experiences have you had?
- film making – what is the benefit of living and studying in a multicultural campus?
- mentoring – What? How? When? Why?....
- campus surveys – on-line and paper-based surveys to reveal what others think of the their multicultural campus experience
- student-led conference – to share what has been learnt with others and carry on the engagement process with new people so spreading the influence of the cultural enquiry process.
- Learning through Enquiry Award synthesis story – what have we learnt? How are we different?

Through Cultural Academy participants have gained a deeper sense of 'cultural wellbeing' founded on mutual appreciation and respect for other cultures and a sense that people in the University care about this important matter. At a strategic level Cultural Academy is seeking to change our organisational culture to one that is more valuing of the social resources we have for multicultural learning.

The session will be relevant and hopefully inspiring to anyone who sees the higher education experience as an opportunity for individual and collaborative enquiry into who we are and who we want to become.

'Developing emotional competency for learning through diversity and controversy'

K. Stuerzenhofecker

The controversial content of some courses and the diversity of students often lead to destructive classroom interactions if left unproblematized. Student preparation and support are necessary especially where students are encouraged to learn with and from each other with little or no tutor involvement. What pedagogical interventions are available for harnessing diversity for induction and knowledge creation (Hutchings, 2007), and for developing the emotional competency (Newbern & Dansereau, 2001) necessary to deal constructively with diversity and the potential for controversy? Are they useful or do they need further development to support enquiry-based learning effectively? How can the development of emotional competency prepare students for the challenges of active global citizenship across cultures, faiths, genders, sexual orientations and other diversities?

This workshop will frame the issue of emotional competency for peer and enquiry-based learning in Higher Education. It will allow participants to explore it in the context of diversity and controversy from the tutor and student perspectives through role play and discussion. A range of pedagogical interventions for preparation and support of students will be introduced and then put to the test by participants in small groups. The aim of the workshop is to give participants experience of constructive approaches to touchy classroom situations and how they could apply them to their own practice. It also allows participants to put the issue in the wider context of global citizenship.

Emancipation or instrumentality? The effects of Professionals' engagement with students' reflective, enquiry-based learning in written learning journals on an Initial Teacher Education programme

S. Hoult

This paper examines the effects on students' reflections of their supervising professionals' engagements with students' learning journals on a post-graduate initial teacher education (ITE) programme.

The development of a learning journal to record and develop students' enquiry-based learning into their experienced professional practice and related policy and theory is well established within this one-year academic/professional course, which is one of the UK's largest and most successful ITE programmes. Enquiry into, and reflection upon these experiences and related issues are fundamental to the students' academic and professional development.

The students compile a structured but open written learning journal which serves two main academic and professional purposes.

1. To help them to make meaning, through reflection on self-selected enquiries into the conflicts and challenges that they encounter in their learning with regard to practice and related policy/theory.
2. To record evidence to show their progress towards meeting the Standards for Qualified Teacher Status (QTS) in England.

This paper explores the tensions inherent in supervisors' and students' engagements with the learning journal that aims to fulfil both purposes.

It is important that their supervisors view the students' reflections in the learning journals as an insight into their learning processes. This means that we need to resist temptations to measure them in any way. Formative engagement with the student teachers' writing should set an agenda for open-ended discussions which invite them to develop their understandings cognitively and emotionally. It is crucial that everyone is aware of the inherent differences between the reflective and the recording functions of the learning journal.

Evidence suggests the supervisors' formative engagements with the learning journals are fraught with tensions. The engagements highlight a conflict between its professional and academic elements. The demands made by the volume and immediacy of practice seem to cause privilege to be given to practice knowledge by students and supervisors alike. Students' and professionals' implicit theories of assessment also seem to be acting as barriers to the enquiry opportunities afforded by the learning journal.

A technical-reductionist culture (Wrigley 2004) is evident in the frequent target-driven responses of the supervisors. This 'Orwellian language', with learning measured by the language of management has started to control the way we think and act (Pring, 2008). Such an instrumental approach to engagement with the learning journal may well undermine the place of enquiry-based learning and associated reflection. Where the professionals cannot see beyond the reductionist cultures the learning journal may become another force of instrumentality; where professionals are prepared to look beyond the settled certainties of the QTS Standards the learning journal may still be a site of emancipation and liberation.

Anticipated Outcomes:

- An understanding of the use of learning journals on one academic and professionally based programme and the importance of enquiry and reflection to students' development.
- An appreciation of wider cultural factors that influence supervisors' and students' written engagements with the learning journals.
- An appreciation of the tensions between expressing academic understanding and the need to show evidence of progress to meeting professionally based competences.
- An understanding of the influence of audience in students' written reflections.

Enquiry-Based Learning for fostering cross-cultural awareness in Literary Studies

B. Hutchings

This workshop will address the question of how Enquiry-Based Learning methods can encourage students to engage with the cross-cultural elements of a literary movement. The idea of re-writing texts (e.g. converting a text from one genre to another, such as prose fiction into drama) is an established method of encouraging students to engage with generic and other literary issues. The scenario we shall examine aims to open up some of the formal, lexical and thematic aspects of Symbolist poetry by engaging students of English Literature in the task of translating (or failing to translate) into English an influential French poem from the beginnings of what came to be known as Symbolism. Would students be able to overcome their ignorance of and/or reluctance to address foreign poetry and/or the French language? Would the method convince students of English Literature that literary movements have an international, European dimension that can enrich their understanding? Would the exercise be useful for students of French literature? Will we manage to construct a meaningful translation? What will we find out about Symbolist poetry?

Experience and evaluation of developing and running an inquiry-based learning module in international health policy

G. Jones, S. Barnes, J. Owen

This project introduced an inquiry-based learning approach to a new module in International Health: Policy and Systems, being delivered as part of the Masters in Public Health (MPH) programme at the University of Sheffield. The module was designed to meet the learning needs of the growing number of international students in the MPH programme, many of whom bring significant work and health professional experiences.

International health policy problems are complex, dynamic and multi-dimensional so the aim of this module was to create exciting, motivating, and challenging learning processes for students. This would enable them to engage with authentic and complex problems and draw deeply on each others' knowledge and experience. The module was designed around three small group inquiries (UK health policy processes, community health developments in The Gambia, and the interaction of health and development policies in Kerala) and one individual inquiry into the role of international health policy actors. Each small group inquiry resulted in a powerpoint poster and the individual inquiry took the form of a structured essay. All four inquiries were assessed.

Small groups of four were pre-selected to ensure a rich mix of different nationalities, cultures, and experiences. This also helped students build social and intellectual ties early in the MPH. Group members were altered for each inquiry, so that students acquired the ability to rapidly engage in productive inter-disciplinary working. Classes took place in dedicated CILASS spaces which facilitated both the use of technology and the groupwork activities.

Thirty-five students took part in the module and evaluated each inquiry as well as completing an overall module evaluation questionnaire. Five in depth interviews with students were also conducted. Results are presently being compiled and analysed

and qualitative and quantitative findings will form part of the final presentation. The emerging issues arising from the first iteration are outlined below:-

1. Group work - On the whole groupwork was successful, although the percentage of students rating it either very or fairly successful gradually declined throughout the module.
2. Technology / resources - A variety of multi-media resources for each inquiry were put onto MOLE (the local virtual learning environment). Initially groups struggled with the amount of resources provided but, as information literacy skills improved, their rating of 'a lot' or 'too many' resources adjusted accordingly. Students were encouraged to use MOLE to support small group interaction, but this proved ineffective.
3. Inquiry-based learning - As expected, student experience of the challenges of the IBL process improved throughout the three case studies as their groupworking and information literacy skills developed.
4. Assessment/ workload - Production of the poster became easier during the course of the three case studies. Anxieties were raised about the word count, but feedback indicated it improved their ability to summarise and present their ideas in a concise way. Students finding the workload 'a lot' or 'too much' remained fairly level throughout the module.

This module was an important step in helping strengthen SCHARR's international focus, and satisfying the learning aspirations of its diverse international students. Student evaluation of the module was largely positive and the lessons learned from the first iteration will be used to review the potential for IBL approaches in the whole MPH curriculum

Exploring Information literacy through Inquiry

S. Corral, P. McKinney, L. Parker

This workshop will give participants the opportunity to explore the relationship between Inquiry-based Learning and Information Literacy (IL). Participants will reflect on their own IL competencies using the SCONUL 'Seven Pillars' model of IL. We will then discuss how IL as defined by the Seven Pillars can support inquiry in student learning in HE. Several CILASS-funded curriculum development projects have featured a strong focus on the development of IL competencies through inquiry. A group exercise will invite participants to design inquiry-based activities to build IL in response to the same scenarios that have prompted the development of CILASS projects.

Field trips in English Literature Learning: Reflections from a Constructivist Perspective

R. McKay

In this paper I will reflect on my teaching in the School of English at the University of Sheffield where I use day-long field-trips to promote inquiry based and collaborative learning; build class cohesiveness, motivation and morale; develop student mentoring; and enhance students' awareness of the relation between academic learning and the wider cultural context. Obviously, for degree programmes based firmly on text-based study, such a learning environment offers a range of particular challenges, but also new horizons for teaching. As a pedagogic method in text-based subjects, field-trips offer the opportunity for teachers to situate student learning in a wider intellectual and cultural context. By involving all students in a group or cohort, interesting and otherwise unavailable opportunities for collaborative inquiry are created. More broadly, field trips model the process whereby students' academic methods of learning might continue to be used beyond formal study, promoting lifelong intellectual, cultural and civic engagement.

In addition to discussing the ways in which extra-classroom activities can promote the broader inquiry ideals of a humanities education, I also aim to offer some initial reflections on field trips in Inquiry Based English Literature Learning education in light of recent developments in the field of educational theory, particularly in the area of constructivism (see, for example, Steffe and Gale (eds.) (2005)). The paper emerges from work undertaken as part of an ongoing Scholarship of Teaching and Learning project.

Field visits as both space and place for inquiry-based learning

W. Kitchen

Robertson and Blackler's survey of Physics, Geography and English students at a New Zealand University suggests some quite substantial disciplinary differences in terms of students' experience – or at least their perception – of where academic research is “located” within Universities. Physicists suggested it was located “out there; at a higher level”; Geographers “out there; in the field”; and English students “in the library; in the head”.

This workshop will explore the potential of field visits to enhance inquiry-based curricula in a variety of academic disciplines and in different spatial contexts (including, should the mood take us, the potential for virtual technologies and other devices to bring outside spaces and experiences into the seminar room or lecture theatre). The aim is to share ideas from as wide a range of disciplinary perspectives as possible.

Participants will:

- Gain increased awareness of the potential range and practical advantages of using field visits as a means to promote richer inquiry into the very stuff of different disciplinary debates and knowledges;
- Have an opportunity to share and scrutinise elements of their own practice in relation to the use (or otherwise) of field visits in their teaching, particularly in relation to students' perceptions of the location of research “out there” (or otherwise);

- Reflect upon the importance of place, as much as of space, in the construction of knowledge and understanding through inquiry.

The workshop will proceed broadly as follows:

- Introduction to aims and themes of workshop (10 mins);
- Small group discussions of existing practice – please come along ready to talk about how, if at all, you use field visits (broadly defined) in your own teaching at present (10 mins);
- Exercise to classify and/or explicate different forms of field visit – can we identify different themes and affordances? (20 mins);
- Concluding discussion – towards a theory of field visits in inquiry-based learning (10 mins).

Robertson, J. and Blackler, G. 2006. Students' experience of learning in a research environment. *Higher Education Research & Development*, 25(3): 215-229.

Four Days in May: The Election Project

B. Carmichael, D. Holmes, M. Kinsey

For four days in early May 2007, sixty postgraduate journalism students and eight postgraduate students of political communication in the Department of Journalism Studies tore up the timetable and became a newsgathering operation covering the local elections in England and Wales. Between May 1 and 4 they produced two newspapers, a live website, 28 radio news bulletins, four television news programmes and a one hour radio programme in real time to real deadlines. They worked as the professionals would, covering and analysing the issues and the results.

Students worked together in cross disciplinary ways, finding and sharing information, then 'publishing' it in a variety of formats. Broadcast students learned more about how print and web journalists work; political communication students learned about the needs of journalists. All students were forced to research for themselves the political map of England and Wales. While the tutors designed the broad output, the students made the important decisions about what stories to cover and how. This was a real world event that brought to life and made real their previous, more traditional study of politics: they saw for themselves something of the political process and how it is reported

It also fostered collaboration and team teaching between tutors and gave the students something concrete to produce that relied equally on individual initiative and team effort. And it reinforced a culture of inquiry that mirrors the research process. The session will explain how the project was conceived and managed and show some of its products. It relates to the themes of the conference in several ways:

- It highlights new and creative pedagogic practice
- It provides insights into the experience of both staff and students during a complex and ambitious IBL project

- It will explore and highlight some of the challenges of IBL
- It will create a discussion about where the boundaries between tutor input and student initiative in open ended projects is best placed
- It will ask how such a project should relate to formal course assessment, if at all
- It will examine how you ensure students have learned in this type of IBL experience

Inquiry-based enterprise learning

J. Moore, T. Weddell

Business in the Curriculum is a HEIF funded activity run by Enterprise at Sheffield, at the University of Sheffield, embedding enterprise skills in the curriculum. Business in the Curriculum modules have the function of placing academic learning in a 'real world' context and have proved to be very successful. The modules can be either curricula or extra curricula and the requirements are deliberately uncomplicated: externals must be brought into the curriculum and the modules must be sustainable. Modules arising through Business in the Curriculum will be outlined. As may be expected, they are many and varied but the majority have elements of inquiry based learning in them, particularly those elements encapsulated in the sub themes of this conference: inquiry literacies and inquiry cultures.

Two significantly differing Business in the Curriculum modules will be discussed, from the Department of Information Studies and the School for English Language, Literature and Linguistics. Although formulated with contrasting methodologies and outcomes there are synergies, and it is exploration of these synergies in the following discussion which will elucidate how model(s) of inquiry based learning can be firmly integrated into Business in the Curriculum, in order to bring the Sheffield Graduate the best possible experience of enterprise learning.

Inquiry-based learning: are the parts always greater than the whole?

M. Burton, J. Cleak, C. Fegan, C. Craig, C. Walker, A. Bedson

This paper presentation compares two professional programmes at Sheffield Hallam University using Inquiry based learning. One is an occupational therapy programme where an inquiry pedagogy to underpin the core elements of the programme has been developed. The other is a physiotherapy programme where inquiry based learning is utilised within individual modules. The paper considers the strengths and limitations of these very different approaches. The paper will consider the student and educator perspective and will address some of the practical and pedagogical issues that have emerged from using these two different approaches. In relation to the programme objectives the presenters will explore a range of very different stimuli used within the two programmes as well as considering some of the learning strategies and group processes identified. The presentation is based on a series of evaluations and observations that the educators have collected over time and that have informed programme development.

The paper will be presented by physiotherapy and occupational therapy educators and their students. Outcomes:

- To explore pedagogies and some of the practicalities that must be taken into account when introducing and delivering inquiry based learning into the curriculum
- To consider the potential benefits and drawbacks of both approaches
- To have the opportunity to reflect on the experiences of students and staff engaging in these different models of implementing enquiry based learning.

Inquiry-based Learning in Computer Science – a natural approach to learning

M. Brayshaw, N. Gordon

This paper considers the rise of the Internet and how the so called Google generation is leading to a change in the skills and learning frameworks of students entering higher education. The paper identifies some of the skills which are core to inquiry based learning – and which can naturally be developed through the use of the Internet as a source of information and even as somewhere to live out virtual lives. For computer science students in particular - where the knowledge of computer systems, information systems and user interfaces are common themes – the application of standard study and learning techniques naturally supports inquiry styles of learning. With the added focus of the World Wide Web, and in particular newer technologies and approaches such as the semantic web, Computer Science becomes a core discipline for the development and support of inquiry based learning, and provides a natural environment in which students can develop it.

However, alongside the opportunities which the “networked world” supports, there are a number of dangers and pitfalls to be aware of – such as the danger of students becoming gophers who can collect data but have little understanding of it or an ability to interpret it to become useful information. The paper also considers some aspects of this and how to counter it by encouraging understanding and interpretation, in spite of the technology potentially pushing students to concentrate on superficial data gathering.

Another aspect which is developed in the paper is the use of technology to encourage team and group activity – when some students perceive the technology as a way of avoiding dealing with difficult peers. This can be done through formative and summative means- and both are considered here.

Inquiry-based learning in psychological research methods

R Rowe, P McKinney, J Wood

Psychology students are often surprised that research design and statistics forms a substantial component of their degree. Many are motivated only to pass assessments rather than gain transferable skills that they can apply to their own empirical projects during their degree and beyond. Students rarely engage with research design and statistics until their final year project where they have a greater ownership of a piece of empirical research. This project adopted an inquiry based approach to foster this investment in research methods in the first year.

The project was conducted within the existing Level One tutorial programme which involves groups of 4-5 students working with a postgraduate tutor. In an initial meeting the tutor provided students with a list of potential research questions from their own research area. The students were asked to choose one as a group or to consider their own question in this field. In collaboration the students (with tutor support) completed a group proposal form that was standard across tutorial groups to explain the design of the experiment. A single copy of this sheet was submitted at the end of this one-hour tutorial.

Prior to the next tutorial, a simulated dataset was created using statistical software that might have been collected if the students had really conducted the experiment. The dataset was realistic in the sense that plausible relationships could be specified between the created variables, allowing the possibility of student exploration of the data.

The follow-up tutorial was conducted as a collaborative research methods examination with support encouraged from books and notes and from the postgraduate tutor. Students were provided with the data set and five questions to answer regarding the simulated results of the research project they had designed. Four questions required them to apply statistical tests they had learnt but did not indicate which technique should be applied. The fifth question required them to choose their own question to explore in the dataset and choose an appropriate statistical test to address it. Students wrote up these answers during the tutorial. All students in the group were awarded the same mark, based on the work submitted in the tutorial.

Feedback showed the students were largely appreciative of the inquiry based approach to research design and analysis. The majority felt that they had developed a range of skills by going through this process. They identified that their transferable skills in collaboration, communication, organisation, independent working and problem solving had improved over the course of the project. Also, more subject specific abilities were impacted positively such as designing and analysing empirical projects. The feedback did identify some areas of concern, however. Some students, in particular, reported problems in working in groups.

Participants will be presented with a novel approach to training research skills in psychology. They will have the opportunity to discuss how the project could be improved in future presentations and how they could employ similar approaches to their own teaching.

Inquiry in the Web 2.0 environment: a critical role for students in 'design for learning'?

P. Levy

There has recently been growing interest, in the e-learning field, in the role that digital technologies may play in facilitating 'design for learning'. This is defined by Beetham and Sharpe (2007: 6) as "the process by which teachers - and others involved in the support of learning - arrive at a plan or structure or design for a learning situation". Researchers are exploring how the practice and scholarship of design for learning can be enhanced through the use of digital design tools and 'pedagogic planners' to inform activity-focused design (e.g. Dalziel, 2007; Diego et al. 2008; Falconer and Littlejohn, 2007). An evaluation of an early version of one design for learning system, the Learning Activity Management System (LAMS), focused specifically on its

potential value for developing and sharing practice in inquiry-based learning (IBL). The activity sequencing interface and tools offered by LAMS in this version were perceived as especially appropriate for the design of relatively tightly structured, linear processes of inquiry. The system was perceived to be less well-suited to supporting the design of more open-ended, 'messy' or iterative processes (Levy, et al. 2008).

The emphasis of 'design for learning' research and development, thus far, has been on the concept of 'teacher as designer' rather than on 'learner as designer' - although at the same time, developments in the use of Web 2.0 tools for learning and teaching in HE, such as blogs, wikis and social bookmarking, are seen to offer promise in terms of positioning "empowered individual learners at the centre of the e-learning design process" (Mayes and de Freitas, 2007). In the LAMS evaluation referred to above, the system did not in general appear to orient design thinking, or support design practice, in the direction of 'student-led' design for learning, although creative ways in which it might be used to enable students to take on the role of designers of their own or each others' learning activity were identified. One general conclusion arising from the evaluation was that there may be a case for developing explicitly 'student-facing' tools that enable networked students to take the lead in designing, managing and adjusting their own inquiry processes, and in using design representations as resources for reflection and sharing with other students. Social networking and other Web 2.0 tools offer students more freedom and flexibility in constructing personalised environments for learning than - for example - institutional virtual learning environments (VLEs), but we can note that they do not offer specific features to assist in designing, managing or representing inquiry processes.

In this paper I shall first offer a brief, critical overview of current developments in the design for learning field, as the basis for exploring the question of the role for 'students as designers' in inquiry-based learning (IBL) and possible implications for the development of student-facing design tools. IBL is grounded in principles and values associated with student ownership of, autonomy in, and responsibility for, the learning experience; approaches to IBL pedagogy frequently include a strong explicit focus on process, with the aim of developing students' meta-cognitive and other learning-to-learn capabilities. IBL and other forms of research-based learning also offer the potential to radically restructure existing relationships between teachers and students, and perhaps even HE as a project, around inquiry as a shared enterprise (Brew, 2006; Lambert et al, 2007). With these perspectives in mind, this paper will develop the argument that we need to recognise and support inquiring students not only to become originators of their own questions (Bereiter, 2002) or producers of knowledge (Neary and Winn, 2008) but also designers or co-designers of their own processes of knowledge-production, within the contexts of the inquiry practices of their disciplines.

The concept of 'student as designer' is not offered as an alternative to that of 'teacher as designer' but as a corollary to it in the IBL context with, arguably, some specific implications in relation to Web 2.0. Neither is it a novel concept. However, it has yet to receive full attention in existing discussions and developments around design for learning, and I will argue that the nature of IBL - in which students engage in learning processes that mirror the research and scholarly practices of the disciplines - raises particular issues. I will conclude my presentation with an exploration of the possible pedagogical role of student-facing, digital 'design for learning' tools in IBL, and will propose a tentative conceptual framework for the features that such tools might offer. Presentation of the paper will be followed by discussion. Participants will be invited to respond to this framework (and to any other issues raised) from their own

perspectives on IBL and design for learning, including those of academic staff, students, and developers of digital learning tools.

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Inspiring and enquiring: Can enquiry-based learning develop student confidence for independent working at Level One?

E. Skinner, M. Jenkins

Enquiry based learning (EBL) requires students to take the initiative in planning projects, investigating problems and interpreting information. With the vast quantity of information available in the networked world this increases the challenge especially where students lack the confidence or skills for working in this way. EBL can seem particularly daunting for students at Level One. Some students have an expectation that they will be told exactly what they need to learn and find it difficult if they are asked to learn independently through an enquiry-based activity. The problem for teachers is how to break into the cycle of low confidence that prevents students from

engaging effectively in activities through EBL that might help to build their confidence.

This paper reviews a case study experience of EBL where Level One students use the networked world to find out how the town and country planning system works in England. Students develop understanding by actively engaging with the actual planning system through enquiry. In addition, the approach empowers students; it provides the opportunity for students to make personal choices, take the initiative and tailor their learning activity to their own needs.

In the case study, the students are grouped in fours for the activity, the outcomes of which are assessed. The group searches planning authority websites for a suitably engaging planning application to investigate. Course materials and class-based discussion provide a framework for understanding the planning system. Students then conduct an enquiry to identify the process by which their chosen application is decided and the variety of influences on the decision. Students also choose what to offer for assessment, such as a collaborative report, a group presentation or a web-based discussion and portfolio of evidence.

The nature of this activity means that students at Level One, who may be confused or lack confidence, need carefully planned support. This paper therefore outlines the scaffolding provided by the teacher to help students tackle a potentially difficult and daunting task. It will review the students' reflections on their experience to gauge the success of the activity as a tool for inspiring independent learning, empowering students and introducing the planning system.

Intro week induction and inquiry-based learning: varying approaches

L. Gray, A. Rossiter, J. Rowson, M. Freeman

The University of Sheffield has considered strategically the induction process undertaken by departments during Intro Week in order to facilitate the transition to university for new students.

In 2006, the Department of Human Communication Sciences (HCS) made a successful bid to CILASS to introduce an Inquiry-based Learning approach to their student induction, which was reported within the University and the LTEA Conference 2007.

From that success, the Department of Automatic Control and Systems Engineering devised a project to engage their new students in September 2007 and worked in partnership with CILASS. The two main aims were: (i) to welcome students into the department and discipline and (ii) to begin the education of students into a new way of learning and more specifically independent learning. At the same time, the Department of Mechanical Engineering re-designed their Intro Week activities. HCS have continued to develop their activities with increased student-led participation in the design of, and support for the programme of induction.

The approaches from each of the three departments will be showcased in the symposium. The main purpose of the presentation is to share and disseminate what we believe to be good practice and also to promote some discussion with delegates on this theme.

The presentation will cover a number of topics such as:

- Why is inquiry-based learning (IBL) important and in particular why did it merit large departmental projects based around intro week?
- How was intro week organised to meet the aims?
- What activities were undertaken that started to make the students aware of independent learning techniques in the transition from school to university?
- How did the departments build on the activities of intro week to continue the process of embedding good practice in the education of their students?
- Was the project a success and evaluation data?
- Which aspects of good practice might be usefully summarised for other departments?

‘Journals contain facts unlike the daily mail’ implementation of an inquiry-based learning task enabling evaluation of information sources

M. Jones, P. McKinney

This paper reports on one strand of the CILASS funded Departmental curriculum development project that was taken forward by the Department of Psychology. Because of its intrinsic ‘human interest’ content, psychology is often misrepresented or trivialised within the popular media, this contrast between the media approach and the scholarly approach provided a landscape for student inquiry.

Level 1 Students were asked to identify from the popular media a report that was based upon an original psychological source. Students were asked to engage with the newsbank database of newspaper material and BBC online to find stories of interest. A follow-up activity was devoted to finding the original source of the story via the Web of Knowledge database. Students collaboratively reflected on the process of the search and evaluated the authority of the contrasting information sources. These activities facilitated the development of students’ information literacy, not only introducing them to the information searching in the environment for their discipline but also developing ‘higher order’ information literacy competencies in evaluation of information and conceptions of the nature of scholarly publishing and peer review. The task was facilitated by a series of tutorials conducted by trained Postgraduate associate tutors who provided advice and guidance on search skills and strategies. A mixture of qualitative and quantitative methods were used to evaluate the task. These included a student questionnaires and interviews with post-graduate associate tutors and the project leader. Examples of the collaborative PowerPoint presentations produced by the students will also be provided.

Participants will be presented with a novel approach to embedding information literacy within the social science curriculum. They will be given an outline of the difficulties one may encounter in designing IBL to be delivered by a team of associate tutors and be able to engage in a critical discourse on the nature of developing information literacy through inquiry. This will enable reflection upon whether such an approach is desirable and would be successful within their own practice.

‘Journeys of exploration’: structuring and supporting collections based research at the Museum of English Rural Life

R. Smith

The title for this masterclass is a quote from a student regarding his experiences in collections based research. It reflects a learning programme which facilitates student engagement with a range of different collections, spaces, technologies and professionals – in essence a programme which facilitates student engagement with collections –based research.

This masterclass aims to explore the potential of museums and collections as spaces for enquiry and discusses the way in which practitioners may facilitate this type of engagement. The session will be led by Rhi Smith, the Undergraduate Learning Officer at the Museum of English Rural Life, who will introduce her own strategy and experiences in establishing 5 enquiry-based learning modules as part of the CETL-AURS project. Through engaging with the conferences sub-themes of inquiry spaces, cultures, literacies and technologies participants will be asked to discuss how this type of learning could be designed and facilitated in their own institutions.

Programme for session

The masterclass convenor will give a brief introduction to the MERL project and in each of the sections outline the work undertaken at MERL and then discuss challenges and successes with participants.

Participants will be sent a resource in advance of this session which will briefly outline the MERL project and pose questions about how this type of learning is or could be structured in their own institutions. The nature of the questions and discussion will take into consideration whether the participants have prior experience with collections based learning.

Introduction

- The MERL Project
- The potential of collections for student enquiry
- The challenges of collections for student enquiry

Inquiry Spaces - A discussion of the kinds of resources available to participants, the logistical restrictions put on their use and possible adaptations of existing models to fit these.

Inquiry Cultures - A discussion of the kinds of networks which this kind of work can utilise, the potential benefits of engaging with professional communities of practice and the logistical, ethical and pedagogical issues with involving the broader professional community in learning.

Inquiry Literacies - A discussion of the how to design supporting materials, structure sessions and design ‘triggers’ which will challenge and support students as they learn to navigate different information systems and organisational frameworks.

Inquiry Technologies - A discussion of how digital technologies can be used to support student learning in a professional context and of how technologies such as 'Interactive Whiteboards' may be utilised to facilitate enquiry.

Learning by design: constructing knowledge through design inquiry around educational game development

A. Middleton, R. Mather, S. Diamond

Educational or 'serious' games have been recognised as a valuable device to engage learners in higher education. The lack of availability of such games in an adaptable and appropriate form for many teachers, however, presents a barrier to higher education's adoption. In response to this the authors, a small team of educational developers, ran several initiatives that involved students in designing and developing games in order to explore the potential of digital game-based learning (DGBL). One unexpected outcome of this was the realisation that the game design process itself provided a valuable learning opportunity; the process required creativity in problem solving and social discourse in the iterative negotiation around designs. The simulation therefore was found to offer a model of networked inquiry.

In addition to the educational development needs the simulation discussed here was designed to support undergraduate Computing (Visualisation) students in an immersive and authentic learning experience. The approach required students to negotiate their own inquiry strategy around a scenario proposed by the authors, who co-ordinated the simulation. In two iterations of this cross-institutional simulation, students were required to work in small groups over one semester. Each group played the role of a game design Development Company. They responded to briefs for educational games created by academics from various disciplines in the university. To do this they developed and analysed Client requirements and examined resources relating to the Client's discipline and relating to design management and development. Additional support was provided by the students' tutor.

Negotiated design projects, such as this game design simulation, can offer valuable contexts and opportunities for learning. This paper discusses inquiry-based design as a driver for learning and draws upon interviews conducted with clients, developers, co-ordinators and the tutor. The session will engage participants in discussion around the ideas proposed in the full paper and this will develop understanding of the links between creativity, design and inquiry-based learning.

Managing Inquiry-based Learning: Learning from Experience

CD Thomson, A. Corbett, M. Holcombe

We have been running a suite of inquiry based learning modules for the past 20 years. Over the last 6 years we have begun to introduce a suite of support software that aids the communication between team members and the lecturers who act as managers. Based around a management tool this suite of software enables the students to manage their time more effectively and record the process that they follow in solving the problems in the course. In all three modules teams of between 4 and 8 students work together to develop a software product, however in each successive course the students are presented with more autonomy, harder problems

to solve, and more realistic experiences. The final fourth year module is taught within a student run company that was spun out from the University in 2007 which now employs two full time staff (thus bringing a need to earn a significant income from the company activities).

Two problems have occurred frequently on these modules are that the students can be poor at organising their schedules and setting deadlines and that we have moved towards marking schemes which are focused on process rather than product. These two factors have mandated that the students need to provide evidence that they are planning and following the process that has been set. Our initial tools were based around the documents required as part of the process; this was principally the minutes of meetings with attached actions. These were poorly received by the students who regarded the process as a chore rather than as an integrated part of their work. More recently we have enhanced the tools so that they are more deeply integrated into the development method and mark scheme whilst also making them flexible. With this approach the students are reporting that they find them helpful and easier to use. As a result we have seen that the use of the tools have increased, and more students are using them for more required tasks as set in the mark scheme.

We have also found that when the lecturers acting as managers take a strong interest in the process that the teams are following then the usage of the tool increases. This perhaps suggests that the Pygmalion effect is important as the students respond to what they think is required. In the future we anticipate extending our capability to allow the tools to involve the client organisations, and perhaps teams working in other universities or other departments at Sheffield. These tools also have another benefit for those interested in education research. They provide a detailed and structured archive of real data from realistic projects that can be analysed in the light of a variety of research questions concerning creative and quality processes, technological developments and change, and when combined with suitable questionnaires, field observations and other techniques, this data can provide insights into teamwork and group processes and individual roles in inquiry-based learning projects.

Networks and networking

D. Jaques

Networking is often considered as a natural and organic process. Potentially, at least they provide a bridge across the formal flow of everyday life. Their potential for learning and sharing resources is often underestimated, whether through an existing structure or more informally through an individual, and sequential initiative. Sometimes, we can make unlikely and unexpected connections simply through an impromptu phone conversation where two people just 'hit it off'; at others when we make a risky request such as asking for help or offering something speculatively on email.

Yet often, assumptions about ourselves and others can inhibit such opportunities and this may come to a head in organisational structures where untested assumptions shared in one group vis a vis another can lead to unhelpful splits and non-cooperation and even obstruction..

An existing network, if we use it effectively can come up with an unpredictable gift. The range of interests and values a network embodies can also encourage us out of so-called 'single-loop' thinking inside which we may have become 'trapped' – always

a big challenge; and just as in a face-to-face group, it may need maintenance and, where it grows larger, structure.

What does networking look like?

We can explore networking at four levels: the intrapersonal - interaction between the various voices within us, the interpersonal or social, - face-to face, phone or online, organisational, formally or informally at work, and lastly the structural – where the lines of communication of are formed through designated channels.

Ideally, networking involves:

- The wish to communicate at a trusting level
- The ability to help people feel happier or better.
- A process, not a one-off activity.
- Some kind of mutual benefit.
- A form of playing.
- Asking for and giving away.
- Like investing: you put a little into it, but the payoff (we hope!) accumulates year after year, eventually growing far beyond your initial deposit.

It also requires what I call 'self leadership' – encouraging the members of our 'inner team' to act, to initiate, and in so doing take a step into the unknown: that is to say not knowing how our uninvited request or offer may be received or responded to. What can networks achieve?

They can provide a sense of belonging and mutual support, whether for immediate reassurance or lifelong and experience-based learning, through:

- Exchanging information and ideas whether inside the organisation or externally.
- Exchanging skills and learning.
- Giving mutual support and thus building confidence.
- Helping members feel involved

It can also help disparate groups in:

- Sharing and building ideas, strategies and campaigns.
- Integrating and coordinating the otherwise unconnected work and identity of smaller groups.

Networks are also a prime means of reaching out to include new members locally, nationally and internationally.

In this experiential workshop we shall share some of the blocks, both personal and social, that we experience in starting and developing networks, and experiment with some of the less familiar methods of achieving success in this domain.

Skills without frills: presenters not included

L Jenkins, L Goldring, J Wood, S Little

Two LTEA CETLs, the Centre for Inquiry-based Learning in the Arts and Social Sciences (CILASS) at The University of Sheffield and the Centre for Enquiry-Based Learning (CEEBL) at the University of Manchester, place student partnership at the centre of their approaches to facilitating educational development. Both networks seek to engage their student members in inquiry based approaches to the tasks that they carry out, while many of the projects which the CETLs to which they belong have supported have included an element of student assistance/ co-consultancy in the actual development and delivery of academic modules. We therefore look to examine the extended networks of students involved in enquiry-based learning as well as the actual interns and ambassadors. In this workshop we seek to explore what this 'inquiry based' approach actually means for the students who are engaged in it.

This session will explore what the student members of these networks feel that they have gained from membership and involvement in educational development activities at two research-led institutions. It will also ask staff participants to consider the applicability of the collaborative inquiry approaches taken by the students to (a) their own practice in the classroom and as educational developers and (b) their interactions with students.

This workshop will build on a session that the CEEBL and CILASS student networks are jointly running at the CETL Student Network conference in Plymouth in the week prior to the LTEA conference. At the earlier event we will encourage students to consider the various skills and competencies they develop by being (a) partners in educational development activities, and (b) members of networks such as those at CILASS and CEEBL.

At the LTEA conference we will begin by feeding back our findings from Plymouth and coupling them with our specific investigations into the 'inquiry cultures' developed in the CILASS and CEEBL student networks. We will then engage participants (staff and students) in a range of activities to encourage them to consider relating these more generic, student-centred findings to (a) 'inquiry cultures' as it relates to IBL pedagogy and (b) 'inquiry cultures' as a way of supporting and facilitating 'inquiry cultures' (both staff and students).

Participants will

- gain a detailed understanding of the ways in which students have been engaged in educational change initiatives in two LTEA CETLs;
- gain some knowledge of how students involvement has developed on a broader scale across the CETL network;
- relate this to IBL contexts specifically;
- engage in dialogue with each other and students;
- develop ideas about how these findings might be more broadly applicable in academic as well as educational development contexts, especially relating to IBL.

Student and lecturers' experiences of introducing a hybrid IBL approach to teaching organisation studies in a business school

M. Page, C. Jarvis, H. Gaggiotti, E. Attwell, M. Lukaj, L. McCann, S. Hayward, L. Hindson

IBL can be used as the design principle for whole modules or programmes, in which case all students' activities and all learning resources and teaching strategies will be designed to support the inquiry process. Alternatively, discrete IBL activities can be incorporated into more traditional curriculum designs, for example as part of seminar, laboratory or fieldwork activities. This approach might be seen as 'hybrid IBL' (CILASS 2008).

In this paper module leaders and students reflect on their experiences of hybrid IBL as an approach to learning and teaching in the context of three organisation studies modules in a Business School. In each module tutors and staff are evolving an approach to learning, teaching and assessment that is distinctive, through iterative processes of engagement with student feedback and experience. Our focus will be on the lived experience of staff / student engagement, and the narratives that tutors and students evolve for making sense of their experience and for supporting and sustaining their learning.

In our reflections we aim to explore how we work with the tensions between the expectations carried into the module from the traditional teaching and learning environment in the Business School, and the ethos we are seeking to create and sustain within each module. We will consider how students and tutors interpret and enact hybrid IBL in the learning and teaching relationship, and reflect on our methods and processes for sustaining and developing student and staff engagement with IBL in a wider context that does not recognise or support it. More specifically, we are interested in exploring how to introduce hybrid IBL in ways that link the familiar with the unfamiliar, create 'something new' in an 'old' format, creating coherence alongside contrast with other modules and that can accommodate to organisational requirements.

Gender emerged as a strong topic in our research discussions with students. Are there differences between how males and female students/lecturers engage with hybrid IBL in a business teaching context? What other factors influence how students/lecturers engage? How many of the apparent differences are about managing appearances – how male students/lecturers want to be seen by each other- peer pressure? What parallels might there be in organisations? Analysing experiences across modules offers another way of exploring how different students/lecturers engage with hybrid IBL and experiential learning. What make the students/lecturers feel un/comfortable in them, find them valuable or not? Anxieties triggered by changed expectations of how students and tutors take up their roles are particularly acute in times of assessment. While many students thrive when offered hybrid IBL others struggle and do not do so well. While student feedback offers opportunities for tutors to improve learning and assessment it also raises ethical dilemmas that we are keen to discuss and address.

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Technology-enabled inquiry-based learning in a Faculty of Health Sciences

I. McAlpine

If IBL is to be introduced in course units with very large enrolments, the intended learning enhancement needs to be achieved in combination with economies of scale. The Faculty of Health Sciences at LaTrobe University is planning to use IBL in all first year units in a revised curriculum. This will involve 1700+ students, spread over 5 campuses, in each course unit. This challenge requires a cultural change among academic staff, towards a learner-centred pedagogy. A range of technologies are also critical to enable implementation of the new curriculum.

Research and experience on applications of technology to provide a technology enabled learning environment for IBL are being applied to provide a manageable framework. Online facilitation processes that reduce the time required of academic staff and enable self-directed learning will be used to guide and support students through the enquiry. A learning design template, tested on other course units, will be used to provide an online environment to support and enable the learning processes associated with IBL. Student peer review has been identified as a means of encouraging deeper and more reflective learning while reducing the assessment burden on academic staff. Online applications of student peer review, tried out with large student numbers in a new course unit in Engineering Design will be used in the new units.

Developing the new curriculum in an IBL framework has led to a clash of cultures among academic staff. Inter-campus issues have emerged to further complicate difference in pedagogical approaches. A combined project management and staff development approach is being implemented to acculturate staff members to developing and applying IBL as the primary mode of teaching and learning. This approach is currently being articulated into design and development of new units in subsequent years of the revised curriculum. Staff members are undertaking trials of IBL approaches in 2008, in preparation for the start of the new curriculum in 2009. Participants will be introduced to the approach and range of supporting technologies, including a learning design template and student peer review and assessment processes, used to manage IBL with large numbers of students in a way that is time-efficient for academic staff. With this framework in mind, participants can debate approaches to the larger-scale development currently under way at LaTrobe University. Technology applications and cultural change are major issues and idea sharing on these matters will be engaging for the session participants, and lead to new ideas for IBL development for units with a large enrolment.

Theatre 2 point oh: an extra-curricular, student-led inquiry project

T. Szekeres, L. Jenkins

theatre two point oh # (tpto#) is a unique, student-led IBL project - an interdisciplinary and collaborative theatre initiative that aims to enhance understanding of this medium, especially with respect to performance, and at the same time utilises theatre as a tool for promoting inquiry and sharing ideas, practice and knowledge. tpto# will use a theatre production as its format, the core idea of which is to utilise appropriate technology, collaborative organisation and innovative documentary methods throughout the creation, performance and evaluation of a play. One of the original ideas that inspired the project has become central to the philosophy behind this: to tailor an existing extra-curricular activity towards academic goals and to increase access to an activity that encourages “thinking outside the box” and imaginative ways of problem solving.

This exciting project, funded by CILASS, integrates many of the sub-themes of this year’s LTEA Conference, ‘Inquiry in a Networked World.’ We would use the 25 minutes of presentation to discuss how tpto# has embodied these themes:
Inquiry Technologies: As the name of the piece suggests, the use of web 2.0 and social networking tools are integral to the inquiry line of this project. These media are being exploited to share research, photographs and script drafts and even down to being used as a tool for scheduling meetings and rehearsals.

Inquiry Literacies: One of the main focuses of the project is information literacy – participants will be using a variety of resources to research, evaluate and synthesise information. The aim will be to naturalise the use of these materials, and to embed them into the creative process and make them part of the system of documentation.
Inquiry Spaces: We have been lucky enough to use the technology-rich and social learning space, Collaboratory 2 at CILASS in the Information Commons – an extraordinary space for devised performance. We will discuss the impact that this has had on our work. The use of virtual spaces, such as social networking and GoogleDocs will extend on this.

Inquiry Cultures: Performance has previously been used as a teaching method but not necessarily as a research method. The research is enriched by the interdisciplinary nature of the project, as the undergraduates come from a range of disciplines and backgrounds disciplinary cultures. Also, as this is the first student-led IBL project at the University of Sheffield, a new community has developed between the tpo# collective, CILASS core team and the SAN.

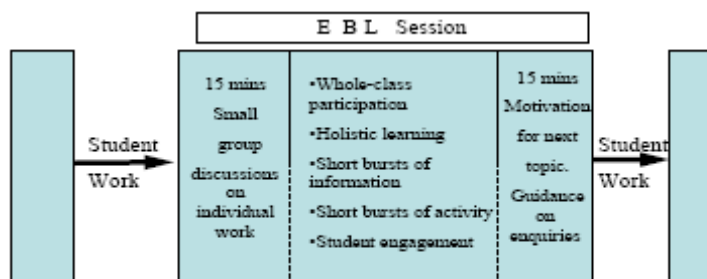
The further 25 minutes of the session will be experiential, allowing participants to sample some of research methods that tpo# has executed. This will include groups responding to stimuli such as props, photographs etc. resulting in improvisation or recorded thoughts on huddle boards.

Presenting a workshop at the LTEA will be an excellent opportunity for tpo# to reflect on the creative inquiry process, the challenges faced and share an insight into the students' experience.

The basics of enquiry-based learning

G. Allan

The aim of this interactive workshop is to look at the basic processes of inquiry-based learning. We will look at what we expect students to do when they make inquiries, how we can generate enthusiasm to make inquiries, what we expect them to bring back from inquiries and what we can do with all this to turn it into learning. The interactive workshop will demonstrate a process model of Inquiry Based Learning which has been researched and developed at Portsmouth University since 1997. It consists of the four cognitive processes of: developing student motivation, student enquiry work, small-group dialectic and holistic learning. A key-stone of this particular paradigm is getting students to think and write reflectively about each inquiry they make. More about how this can be done will be demonstrated during the workshop. The following diagrammatical representation may assist initial understanding.



The Structure of An Enquiry-Based Learning Session

Each cognitive process will be discussed in interactive mode in an attempt to reach clarification and applicability of these processes in the differing academic subject areas and professional contexts of those present.

We hope to generate discussion and reach conclusions on how we can motivate students to make inquiries in support of their learning. Then look at what guidance and support we need to give students when they are making inquiries and how we can help students develop their deeper understanding of curriculum subjects so as to become good professionals in their chosen field of work. This workshop is applicable to all HE academic subject areas and applicable to HE teachers/lecturers in all professional areas. The method produces good results across the subject area board

from the Social Sciences to Computer Science where it will be shown how to engage all types of students.

Participants' experiences and expectations of inquiry/enquiry assisted learning will be sought and discussed in order to give participants a feel for what others are doing in this area.

The Big Tin Foil Hat and a Silent Movie- Technology and Enquiry-Based Approaches: The Teacher and Student Perspective

C. McGourley

Understanding Law 2 is a new module introduced in the second semester of 06/07 in the School of Law at the University of Sheffield. The module is compulsory for first year law students, and aims to build on knowledge and skills students will have acquired during their study of Understanding Law 1 in the first semester. One of the core objectives of the module is to educate students in identifying, locating and utilising legal information that is relevant for a particular legal problem. CILASS funding enabled the team to devise an electronic manual and accompanying e-workbook that requires students to apply legal rules to fictional scenarios. These sorts of exercises are ideal for fostering a culture of open-ended learning, and, as a teaching tool. The Manual places students at the centre of the learning process and empowers them to take charge of their own learning. In addition to this we set the students a task of producing a presentation in any format to be showcased at the "Celebration of Learning". This was a huge success and we were working with over 40 groups. This paper will address what worked and what didn't and how we can learn from this experience for future projects.

The Elephant in the Room: attitudes, concepts and cultural issues raised by inquiry-based learning in a research-led university

M. Kinsey, M. Freeman, R. Petruilis

One of the functions of the centres for inquiry-based learning is to stimulate debate about, and development of, new conceptions of the relationships between learning, teaching and research. In this workshop, we begin by reflecting on the ways that the establishment and activity of one CETL has impacted on the academic community in a university which has traditionally emphasised 'research-led teaching'.

Based on data from a variety of sources within our institution, we discuss how the process of promoting IBL has identified a wide range of definitions, concepts of, and attitudes to, research and learning among staff and students. This has led us to recognise that our current university culture comprises a series of sub-groups of academics, who appear to have quite different concepts of, and approaches, to their practice as teachers and researchers. In some cases, these concepts have been based on implicit assumptions -and accepted as traditional values- which have remained unchallenged until comparatively recently. The result is that the learning community has developed as a series of layers in which a common language is used, but has significantly different meanings. Our discussions and research indicate that the pattern we have identified in our own institution may have parallels in other HEIs.

We argue that, in order to bring about meaningful and lasting change in our culture, we must first establish more meaningful dialogue, so that we can develop shared and explicit understandings of the nature of 'research-led' and 'research-informed' teaching and learning. The key issue to be addressed in this session is therefore the implications of the different interpretations and values afforded by the academic community to research, and the relationship of these to learning and teaching. We also argue that new approaches to teaching and learning are needed, based in a systematic understanding of the most effective methods and approaches to teaching and learning in specific disciplinary contexts. This includes stronger emphasis on learning with and through research, at a disciplinary level.

We recognise that the Scholarship of Teaching and Learning (SoTL) offers systematic and disciplined approaches to the development of innovative, inquiry-based learning methods. For this reason, SoTL is increasingly recognized as a legitimate form of research in many fields. This session will offer perspectives and analysis from three colleagues who have engaged in or are currently undertaking SoTL projects. We will encourage participants to share and reflect on their experiences and perspectives of SoTL and to discuss the way forward for our scholarly projects.

The student as researcher - action for improvement in the workplace

S. Powell, R. Millwood, I. Tindall

This paper discusses an approach to inquiry-based learning that employs the concept of student as 'action researcher' to identify an issue or an opportunity in their work-context that they can improve.

The viability of this approach is evaluated in relation to the Ultraversity project that the authors ran from 2003-2006. There, a model of work-focused learning was developed through a fully online, three-year-duration, undergraduate degree. The learner experience was highly personalised and involved learning together as a cohort while studying their own work context. The supporting online community encompassed learners, course staff, as well as guest experts who joined for a specific purpose and time. Facilitators helped learners to engage in purposeful conversations and share resources with each other. Learners were required to cooperate with each other working as critical friends.

Final project submissions for the first cohort of 142 students were analysed to identify the nature of their inquiries. Students were surveyed and interviewed after completion through questionnaire, telephone and face-to-face meeting. Transcripts were analysed using interpretative phenomenological analysis. This grounded approach provided evidence of the inquiry process undertaken.

The authors of this paper hope to show how learners as researchers can support each other to construct inquiries with the aim of making an improvement in their work-practices and workplace.

The use of learning technologies to support problem based learning

I. Robinson, A. Tootell, S. Mackay, P. Hogg, A.M. Newton Hughes

The symposium will consist of two papers, each followed by discussion that will be focussed to problems encountered by the authors during their practice.

Paper 1) Use of student wikis in stages 6 & 7 of the Maastricht 7 jump Problem-based Learning model

The context was an undergraduate radiography programme which is delivered using Problem Based Learning using the Maastricht 7-jump model¹. Following presentation of each weekly trigger students engage in group discussion and identification of learning objectives (stages 1-5). Students are then expected to undertake individual study to satisfy the objectives (stage 6) and finally feedback in a group discussion one week later (stage 7).

This paper will describe how wiki technology was piloted for use during stages 6 & 7 of one of the triggers and present an evaluation from the perspective of students and facilitators. Discussion will centre on how PBL processes and pedagogical issues compared between this and our conventional approach.

Glen, S. and Wilkie, K., 2000. Problem-based Learning in Nursing: A New Model for a New Context. , Macmillan Press Ltd., UK.

Paper 2) Connecting continents to deliver an allied health degree in problem-based learning: the case for video-conferencing.

Video-conferencing has been used to enable UK degree students on ERASMUS exchanges in Oulu, Finland to continue with their taught programme whilst away from the UK. It also enables students in one health related discipline, Diagnostic Radiography, to be involved in exploring the differences and similarities in the professional practice from a different European country. This paper will provide some insight into use of this technology by offering the perspectives of the PBL facilitator and students engaging with problem based learning and those managing the process. It will include some suggestions for maximising the benefits that this technology can bring to the learning experience.

Anticipated Outcomes for Participants

- Identify how wikis might be used to support collaborative distance-learning
- Consider the possibilities of group-edited documents for structuring feedback
- Discuss how students can be encouraged to assess and edit the work of their peers
- Identify the value of video conferencing can bring to PBL in the context of internationalisation

The value of intellectual property in practice. LAMS – An evaluative case study

R. Cooper, Z. Ollerenshaw

This paper will consider and evaluate the use of the e-learning tool, LAMS in the teaching of Commercial Law on the Legal Practice Course at the University of Sheffield.

The Legal Practice Course is a post graduate vocational course designed to prepare students for work as trainee solicitors. The course is modelled on three hour workshops constituting small group learning to facilitate student centred learning using problem solving scenarios. LAMS was used to facilitate individual inquiry outside of the workshop time.

The presenters will seek to share their experience of using LAMS and using evaluation data, will reflect on the effectiveness of LAMS as a teaching and learning tool within the setting referred to above.

In presenting this paper the authors will:

- Provide a brief description of what LAMS is and some of its main features and capabilities.
- Identify the teaching and learning context in which the presenters used LAMS.
- Explore the rationale for using LAMS in this context by identifying the particular learning and teaching issues that the presenters were seeking to address.
- Demonstrate the LAMS sequence that was designed and implemented by the presenters, highlighting some of the key features and aspects of LAMS that can enhance student learning and promote the outcomes that the presenters were aiming to achieve.
- Share the presenters' key findings, both practical and pedagogic, on the use of LAMS based on student evaluation and their own experience.
- Comment on developmental progress by comparing the use of the initial LAMS sequence with a subsequent sequence and analysing the reasons for any changes that were implemented.

Throughout the paper the presenters will reflect on the challenges and positive aspects of their experience using LAMS and the difficulties they encountered and how these were overcome.

The paper aims to illuminate the capabilities and potential of LAMS as a learning and teaching tool and demonstrate how LAMS can be used as a mechanism that requires the students to engage with IBL activities.

“This is Rubbish, But”: Online Writing in English Literature

D. van Oostrum

In many of my modules in English Literature at the University of Sheffield, I have used pre-seminar writing tasks as a method of engaging students in seminar discussion. Through this method of inquiry, students come better prepared, are willing to engage in debate and defend their own articulated position, and become better at analyzing text succinctly. With the advent of VLEs and improved bulletin board facilities, this pre-writing has developed into a major inquiry component in my teaching methodology. In this session, I would like to demonstrate uses of the bulletin board but also investigate some of the actual writing in terms of academic quality. Students will frequently start a post prior to the seminar discussion in manner as quoted in the title: “This is probably rubbish, but...” Fascinatingly, what follows then becomes an astute reading or observation about the text, expressed in a lucid and witty style. In my Sports Literature and Film module (typically one that attracts a different type of student from my other modules—somehow it’s the only one with more men than women), for example, students who are not strong in the traditional academic essay can produce 200-word entries of excellent quality. Students actively learn from each other, since this is the only academic forum where they actually see each other’s writing, can engage, and respond to it. In the new spaces of the CILASS Collaboratories, moreover, they are able to create presentations and write collaboratively, using the electronic huddle boards and bulletin boards in creative ways. When I compliment students on the quality of their writing, which feature provocative opening sentences, references to other texts, textual examples and specific analyses as well as witty style, they tell me that they wouldn’t dare write in this way for their formal essay assignments—they claim we have actually ‘killed their creativity’ (a student quote).

With this presentation, I will demonstrate and argue for pre-writing and writing as an active inquiry methodology for student engagement and research, but I would also like to question assessment methods in English which rely extensively on the essay as a testing ground for knowledge and quality of writing.

Towards an ethics of IBL

F. Farook & B. Stone

In this symposium we will first describe our collaboration across disciplines to facilitate a first-year undergraduate IBL course for social work students. Then, using insights gained from this, from other teaching in the humanities and social science, and from a diverse range of cultural theory, we will propose a theoretical framework in which to understand a broad ‘ethics’ of IBL. We will suggest some possible links between the practice of inquiry-based learning and an ethical mode of being in the world.

The course aimed to help students research the barriers which prevent service users and carers accessing health and social care. The intention was to help students practise skills and gain knowledge in a way which would develop a greater understanding of user perspectives in our future generation of social work

professionals. A key aspect of the course was that students engaged in research with real life 'subjects'. This involved them meeting and speaking with a wide variety of service users and carers, formulating their own research questions, and working to interrogate and produce knowledge.

Also considering the teaching of subjects such as English, history and sociology, and NHS-funded research projects with mental health service-users, we will go on to suggest links between the practice of inquiry-based learning and a particular ethical approach to research, and the world. Our argument will be that in order to facilitate effective IBL, teachers need to understand this link and to communicate it to their students. For IBL to be successful, a leap of faith may be required on the part of both learner and teacher. It will involve a readiness to allow the unknown to remain in some measure outside prior schemes of reference. In this, an IBL model of pedagogy suggests a paradigm for a mode of being in the world similar to that advanced by a variety of philosophers and theorists such as Julia Kristeva, Judith Butler, Sarah Kofman, and Maurice Blanchot.

Our argument will be that a genuine spirit of enquiry requires an openness to the unexpected or other. We will suggest that the historian Dominic LaCapra's notion of 'empathic unsettlement' may be a useful model for such encounters. The inverse of this is an encounter in which the subject (/object) of research is remade by the critical lens through which it is viewed, with little attempt made to encounter the subject on its own terms.

During this symposium, students' and service users' voices will join ours to 'speak' about their experiences in the form of video taped reflective interviews. Participants will: engage with theoretical implications of IBL; consider the value of interdisciplinary collaborations; be asked to think about the value of process rather than outcome.

Use of Online Quizzes to Support Inquiry-based Learning in Chemical Engineering

D. Rossiter, C. Biggs, R. Petruilis

Online quizzes have been developed to help prepare first year undergraduate Chemical Engineering students for participating in group based assignments carried out in an inquiry-based learning (IBL) format. These online quizzes based within WebCT Vista [1] allow the students to test their understanding of the fundamental chemical process principles required for the assignments before they participate in the IBL activity. Currently, the classes size is about 70 students therefore it is important to develop the students' ability to carry out independent and self-directed learning to acquire these core skills. Using these online quizzes, the students are able to self-assess their strengths and weaknesses in the core chemical engineering principles and practice so that they come to the IBL group work more prepared. The effectiveness of the online quizzes is being evaluated, with assistance from CILASS, using a triangulation approach incorporating a student questionnaire, student focus group and project leaders' interview. Preliminary analysis of the results suggests that the students have found the online quizzes beneficial for developing their core skills in chemical process principles.

The presentation will provide:

- A showcase for the online quizzes created.
- Feedback from the first cohort of students to use the resources.
- Lessons learnt and future developments.

[1] Blackboard Learning System - Vista Enterprise License™ (2008), E-learning platform. Available from:
http://www.blackboard.com/products/Academic_Suite/Learning_System/vista.htm
 [Accessed 25th January 2008].

Values & Worth: an EBL approach to encountering and constructing collections in real and virtual worlds

J. Tatlock, S. Lackey, J. Debert

A scheme undertaken as a small project for the Centre for Excellence in Enquiry Based Learning initially had the two aims of encouraging a reflective and investigative approach to collections in a variety of environments in a real or virtual setting, and, providing a 'research mode' framework for the construction of new, individual or team collections that might also be real or virtual. The intention was to produce a reusable learning object (RLO) based on EBL principles that would facilitate widening participation outreach to students beyond the daily travel area; introduce students to the reflective learning essential at university level; introduce them to minority disciplines not encountered in the 14-19 curriculum and to the potential cross disciplinary nature of university study.

Consultation with the Centre for Excellence in Teaching and Learning in Reusable Learning Objects and colleagues in the Subject Centre for History, Classics and Archaeology has led to a collaboration which is contributing to the development of the next generation of RLOs, a generative learning object (GLO).

It is anticipated that participants at the session will encounter

- A test of GLO capacity to incorporate EBL
- Consideration of the use of HEI teaching strategies to attract and prepare potential students from non traditional cohorts
- The potential ways that collections can be disseminated and used in real and virtual communities
- The possibilities offered by digital capture of objects in real and virtual communities
- Templates for enquiry that can be applied to the encountering and constructing of any 'collection

What are we evaluating? Reflections on self-reflections

C. Gummesson, E. Nordmark

Background: Skills like reflective thinking, independent time management and selecting adequate study aids are essential parts for life-long learning and professional development. To enhance this process inclusion of continuous structured self-reflection in the graduate programs was implemented. The use of self-reflection has the potential to add an important dimension to the learning and evaluation process for students and teachers.

Aim: To study the use of self-reflection during a self-directed online course.

Material and Methods: Thirty-two students participated, during their 4th semester in a 5 week online course in scientific methods, at the Physiotherapy undergraduate program, Faculty of Medicine, Lund University, Sweden. The participants included 27 women and 5 men, mean age 26 yrs, (range 20-43 yrs). Data were collected from eight occasions containing self-directed inquiry supported assignments with reflective reasoning and practical skills e.g. literature search, scientific report including calculating descriptive statistics, ethical assignment writing a patient information consent, and designing a qualitative study. A mandatory part of each assignment was to document their self-reflection.

Analysis design: Thematic, manifest and summative content analysis.

The data were initially categorized into three themes; effort related activities, goal orientation, and cognitive activities. In the next step the initial categories were reread and categorized into subgroups.

Ethics: Acceptance for analyzing the student reports for this study was obtained after the data collection to avoid bias. No individuals could be associated with any information given.

Results: The preliminary results show awareness and reflections mainly on effort related activities and cognitive activities but also on goal oriented strategies.

Conclusions: The use of self-reflection can add an important dimension to the inquiry based learning process for the students as well as the teachers. Potentially this awareness during the study time can improve skills of reflective thinking needed for evidence based practice.