Designing for Learning
e-learning@greenwich/conference

Post-Conference Reflections and Abstracts

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Edited by Simon Walker,
Malcolm Ryan and Robert Teed

Designing for Learning

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A Post Conference Reflection And Report

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Our approach to the annual e-learning conference

The e-learning@greenwich/conference, *Designing for Learning*, was the fifth conference in the series and has developed from its original focus on local institutional issues to a conference that focuses on global themes in e-learning attracting international participation. Our conferences are characterised by being practitioner focused and sector inclusive. Conference evaluations suggest that its intimate and friendly atmosphere, within the grounds of the world heritage site at Greenwich, allows practitioner-delegates to freely mix with delegates of international research repute and have an influence on practice, whether in the classroom or in educational software development.

We felt it was now time to produce a series of publications to share the important work being captured and disseminated at the conferences to a wider public in the form of post-conference reflective proceedings.

What was this conference about?

One can successfully argue that one of the roles of teachers is to design for learning, so why focus particular attention on this element of everyday practice? Within the context of our informational society, future descriptions of learning posit a future in which there is increasing learner autonomy, where students become co-creators of learning and where institutions become providers of services and guidance rather than controllers of learning (JISC, 2007: 32-3). This picture represents both recognition of the increasing trend for students to customise their learning and a desire to enhance student success by acknowledging and working with individual approaches to learning.

The concept of design for learning provides a fresh understanding of longstanding practice and has a number of distinguishing characteristics:
- it focuses on activity as the heart of learning rather than the direct transmission of knowledge. A model in which "*active*, constructive learners carry out relevant *tasks* to progress towards their own learning *goals*" (Masterman, 2006:1);

- it is broader than but may encompass the technical-theoretical field "Learning Design" and the IMS LD specification[1] (Britan, 2004:2);
- the involvement of technology at some stage as part of the design, planning, orchestrating, structuring and supporting of learning activities (Beetham (2008) .

Design for learning not only becomes a way to re-engage teachers in the debate about effective learning, but a means to reconsider the boundaries between knowledge and power, the relationship between the teacher and the learner, who controls the technologies and the curricula and learning.

For many institutions, the move towards increasing learner autonomy will take some time and require a shift in the way in which infrastructural support for learning is organised with the freely available tools that students make use of for personal and educational purposes. Many teachers are, sadly, unaware of the ways in which their students make use of these tools to access the information they need for learning. This conference addresses two major challenges: the infrastructural and the cultural.

Our approach to the publication

Conference publications take many forms, from those that are produced in advance of the actual event and received at registration to those, like this one, that appear after the event, providing time for all parties to reflect on the themes presented and issues raised.

This is our first attempt at producing a post-conference reflection, and overview, of the many interesting and varied presentations delivered on the day. In some cases the contributions are simply edited summaries of the conference presentations; others are extensions of the initial proposals and presentations with additional thoughts, insights and reflections; and some are new creations that build upon the original proposal and presentation.

These contributions are as varied in style and intent as the conference programme. We hope that you find this edited collection of writings to be a useful extension to the event itself and will be inspired to return to the original presentations that continue to be available on-line at http://www. gre.ac.uk/e-conference (follow the link to *archive*).

What were the messages from this conference?

As one may expect from a conference with the title *Designing for Learning*, contributors were drawn from all sectors, including teaching practitioners, researchers and librarians. Messages from the conference were as varied as the presentations and experiences of the delegates but some clear themes have emerged. Contributors reported upon the impact on learners, i.e. motivation, engagement and progression, as well as considering organisational aspects such as training and workforce modelling.

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1   The term "Learning design" has been previously used to describe activities involved in course design and lesson planning but the practice and process of creating and realising learning designs is referred to as "design for learning" in JISC discourse.

Contributors touched on many themes that ranged from personalisation to the significance of information skills and their contribution to development of effective independent learners; the use of repositories; changes in assessment and feedback mechanisms; re-interpretation of the use of technology-based academic tools; the development of pedagogical planning design tools; course re-design and curriculum re-engineering; and learning within 3-D semi-immersive virtual environments.

Organisationally, the conference moved from the perspective of the teacher by Professor Gilly Salmon, through a diverse range of practitioner focused examples of e-learning-in-action, to the student perspective, a presentation provided by Linda Creanor.

As well as describing the results of their innovative work and research into the learning process, a number of contributors (Alexander, Cooner & Wagstaff) developed sets of guidelines to help others involved in similar projects. In charting the progress of sceptical ESOL teachers, Chris Alexander discovered initial excitement then disillusion by teachers' use of web-based materials which allowed him to make recommendations for teachers' effective use of EFL web-based resources.

Cooner & Wagstaff developed a reusable process for designing learning about mental health assessment skills for nurse professionals as well as an actual learning design. Rich media was developed to convey aspects of body language, communication and environments found within real situations. In this project, they plotted the shift from a more traditional method of learning about mental health assessment to one in which learners actively constructed personal and social meaning through engagement with materials and discussion with peers. They describe the developmental process of inter-disciplinary teaching and learning with rich media.

This highly structured approach is quite different to others whose approach to learning design tended towards constructing an environment and then evaluating the socially constructed learning opportunities that occur when students use it (Spencer).

The development and integration of learning objects and academic study skills was a theme that was specifically addressed by at least two contributors (Lambert & Barry, Crofts & Marshall and taken forward in a different way by Davis). Lambert & Barry considered how to retain learners by supporting them to search for information using alternatives to Google, such as 'tag clouds' and the rating of resources for usefulness. Crofts & Marshall involved learners in the design of study skills materials and identified a design process and model for the development of resources and training modules for on-campus, off campus, 24/7 access to training and skills development. Their use of the SCONUL model (1999) offers a framework for developing learning design for information literacy skills. Davis tended to take an alternative view to learning about academic writing by integrating a plagiarism tool within the learning sequence, with some impressive results.

As the first keynote presenter, Professor Gilly Salmon identified the need for institutions to innovate but remain sensitive to cultural contexts. She advocated, 'channelling energies to effect change rather than trying to manage it' and challenged us to innovate, to start with the learners and be sensitive to cultural contexts. This approach was exemplified by Armellini and Jones, who

reported on the ADELIE project, which promotes a transformation process involving subject teams through the creation of new learning opportunities. Another, primarily teacher-centred approach was evident in pedagogical planners promoted both in the UK and abroad, notably in Australia. Leanne Cameron proposed their use to invigorate the process of planning for learning as well as taking account of and integrating what practitioners do in their everyday lives.

Designs for learning were also considered from the point of view of subject disciplines. The ADELIE project (Armellini & Jones) outlines a transformation process that subject discipline teams use to develop new learning designs. Ballard and Negus developed designs to provide students with English Literature learning opportunities and experiences beyond class contact time. This ranged from online discussions to accessing relevant contemporary texts to illustrate Shakespearan ones. Richard Anthony had produced a tool that is integrated as part of a course design to teach specific abstract concepts and interactive visualisations in a range of contexts across a number of disciplines.

Their contributions are a testament to the exceptional, innovative work being undertaken by practitioners, often in highly demanding teaching situations, and they shine a light for others considering how to approach design for learning.

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"Imagination is the beginning of creation"
George Bernard Shaw

"The best way to predict the future is to invent it"
Alan C. Kay Fellow at Apple Computer Inc

"If you can look into the seeds of time,
And say which grain will grow and which will not,
Speak then to me, who neither beg nor fear,
Your favours nor your hate"
Shakespeare, Macbeth 1.3.58-61
(Banquo to the witches)

Airport Lounges now suffice,
Wirelessly to give advice.
Tutorials, Media, and learning for all
Thru Berners-Lee's conceptual thrall
Goodbye, Goodbye dear Lecture Hall!
Written for Designing for E-learning 2007
From an original idea by Rod Angood

Notes for University Teachers of the 21st Century…[1]

Professor Gilly Salmon
Beyond Distance Research Alliance
University of Leicester

There is a gap emerging that requires new approaches and fresh thinking. We know little about how to prepare for changes in learners' expectations of Higher Education (not the same as 'needs') including what, in the huge range of technological opportunities, is significant, and what is not. There are few authentic voices from the learners interpreted through feasible approaches. Meanwhile, our institutions, with their concern for quality and their natural conservatism, change slowly, painfully, sometimes not at all.

Does it feel to you as if university teachers are playing piggy in the middle? Perhaps we need to look beyond the obvious and get ahead in order to prepare. Let's create communities of learners, teachers, technologists and creative practitioners and develop practical, sustainable approaches to developing and planning possible and preferred futures. How?

1. First consult your learners

Despite the huge and rapid changes in education, learners are seldom active in shaping the future for learning and remain largely non-influential in changing the educational process (Rudd et al 2006). There are voids in our understanding of the way learners may wish to engage with new technologies for learning and this gap leaves room for stereotypical views, or those based on past experience rather than fresh insights. Examples include the 'net generation' already knowing how to learn through digital media, or the experienced teaching staff who cannot embrace teaching with technologies. These are both generalisations.

People born in the 21st Century will never know a world without the internet. Many young people are fully engaged with online social experiences such as My Space and Second Life. Year on year, freshers arrive at university with yet more potential learning technology in their hands. Online gaming, music and video downloading and social networking are normal parts of their lives. Lifelong learners buy wireless enabled laptops (sales now exceed 'tethered' desktops). Ownership of mobile phones and home access to the internet in the UK is amongst the highest in the world and crosses the age and wealth divides.

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[1] This paper is an edited version of 'Vision(s) of The New Teacher', the keynote presentation at the Designing for E-learning Conference, University of Greenwich, July 2007.

Hence the *opportunities* for knowledge generation are changing. Many HE providers are struggling to achieve transformations that enhance or transform the student learning experience in successful, efficient and effective ways. We will be in continuous change for the foreseeable future and need to ensure that the changes made are beneficial for student learning. Thus we need more ways of creating strategies and plans for growth and development that meet the challenges that social, economic and technological changes in society bring to education and explore technologies that engage young learners but are currently peripheral in HE.

2. Influence strategy, processes and resources

Key change management writers can help us:

> *" …to 'manage change' is wishful thinking, implying as it does that one knows not only where to go and how to get there but can persuade everyone else to travel there. To 'cultivate change' is something different, suggesting an attitude of growth. Of channelling rather than controlling, of learning and instructions"*

<div align="right">(Handy 1993)</div>

We need to be sensitive to our cultural context in HE in which there are few 'managers' and consensus is difficult to achieve (Bromage, 2007). No one simplistic approach to 'e-learning' will meet the needs of all teachers, keen or otherwise on change (Salmon 2005). The HEA is currently trying a 'pathfinder' approach (i.e. trials that involve learning by doing), which if it enables some abstracted and tested principles, will no doubt help us on our way.

Most importantly, in universities we need to think medium- to long-term, and extend our time frames to include more sophisticated and complex change *processes* with the role of teaching at their heart (Rossiter and Crock 2007).

3. Innovate

Innovation is the life-blood of the private sector. John Kao (2001) writes that the most important characteristic of an innovative company is that it has an explicit system of innovation which pervades the whole organization, is visible, known about, generates a stream of new ideas and is seen as vital to creating value. *Does this sound at all like your university? No?* Huge energies and resources are devoted to innovation in science but far less attention is paid to social innovation – including in educational processes. You might like to run a few seminars and leave a few booklets around from Geoff Mulgan (2007) and Mulgan et. al. (2006).

4. Be inspired

At the University of Leicester, we know that one size of learning technology doesn't fit all, that university teachers wish, of course, to remain autonomous and responsible for their own learning and that of their students.

Our approach therefore has been one that focuses on support and 'normalising' e-learning and pedagogical innovation through a pluralistic approach to support and development, underpinned - crucially - by researching to provide evidence for rationale and inspiration. You can explore for your own inspiration Leicester's Media Zoo through www.le.ac.uk/beyonddistance/mediazoo.

5. Have Fun

I give the last word to a colleague who was involved in the podcasting project from the Media Zoo:

> *"I have never enjoyed teaching a class as much as I have this year you know, my career so far, six years in lecturing. This has been the most fun I've had, I really enjoyed it."*
>
> (Nick Mount, lecturer in geography
> University of Nottingham)

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www.e-tivities.com
www.atimod.com
www.learningingroups.com
http://openlearn.open.ac.uk/
http://ocw.mit.edu/index.html
http://tim.oreilly.com/
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From Clicks to Bricks: the Delivery of Learning Objects to Users

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This project aims to deliver learning objects for both staff and students via W2 search techniques in the hope of tempting students away from Google. Many universities provide a wide range of online support materials and services aimed at supporting a diverse range of students via centrally provided websites. Recent projects, such as the JISC-funded Kent Personal Learning Portal Project (PLPP), have focused on supporting non-traditional students in acquiring and developing those graduate skills which students told us they found challenging.

At the FE–HE interface students reported that, prior to their arrival at university, they found the opportunity to engage with HE-level skills development eased their transition and raised their confidence levels. The large number and wide variety of resources available has led to a perception that not all of the information found was authoritative or relevant to the student's own course of study.

Based on student feedback, Canterbury Christ Church University has investigated the delivery of learning objects embedded into the student's learning experience via a VLE. The use of databanks of objects, such as JORUM, has raised issues of search and retrieval, as has an evaluation of the way in which students access support for themselves over the web. The resulting resource is capable of dynamic change based on input from users and should serve the needs of the digitally literate student as well as those who are not "natives" of the digital world.

Transitional support

Cooke (2004) describes the importance of supporting students through the transition to HE: "Incoming students are extremely ill-informed about what they are about to experience. This does not relate to the curriculum so much as to how they are expected to work and interact, particularly with staff. We should all aspire to produce students who think and learn independently, we can no longer assume that they will arrive already able to do so." Cooke also reports that students who express concerns about their abilities to cope are more likely to leave their courses.

Pilot group students during evaluation of an earlier project told us that only 32% were confident about managing their workload at university, and a similar number were confident in their ability to search for, and find, the information they needed. When discussing the need to support students with study skills at level 1, staff told us that they sometimes felt de-skilled by the use of

technology, have problems of workload and often lacked confidence in their local systems (Kent PLPP Evaluation Report 2006).

We have carried out an evaluation of the way in which students access our online support and other electronic resources, and have found that these findings support those of EDNER (Formative Evaluation of the Distributed National Electronic Resource) Project (2002) and Johnson et. al. (2001):

"Two results in particular raise very interesting and important issues.

Students prefer to locate information or resources via a search engine above all other options, and Google is the search engine of choice and, whilst half of the participants thought that it was easy to locate information, just over a third found it difficult.

Students either have little awareness of alternative ways of finding information to the search engine route or have tried other methods and still prefer to use Google. And, further to this, with a third of the students finding it difficult to locate information (even when using Google), user awareness, training and education needs to be improved. If the IE is truly to be embedded and integrated into teaching and learning further work needs to be done to equip students with the awareness and skills to use electronic resources other than Google."

(EDNER 2002)

Our findings from our students indicated that rather more than the 45% indicated by Johnson used Google as their first-choice search engine.

Developing the online resource

Evaluation of our existing online support resources has shown that generic resources, provided centrally via traditional hierarchical websites, were only actively used by the students when directed to them by their tutors. Furthermore, students have valued resources that have spoken specifically to their chosen disciplines. This feedback has led to a re-examination of the way study support resources are delivered to students, introducing the role of the tutor in signposting their relevance.

We have therefore investigated the provision of a bank of learning objects that can be easily searched by staff and students. More importantly, the objects can be retrieved and embedded into the student's learning experience via, for example, a programme-based VLE, thus providing the appropriate context for the resource against the requirements of the programme.

Our "wish list" for the online resource was therefore:
- To provide a single site for the many study support resources we already held;
- To provide definitive resources which were not contradictory and which had the authority of the institution behind them;
- Academic staff would contextualise the resources within the VLE at a time which was relevant to their course of study;
- All resources would be searchable rather than found by browsing;
- All resources would be described in detail when returned by the search engine;
- There should be some interaction between the users and the site.

This project has involved the translation of materials previously on the web into learning objects which can be uploaded into a repository such as JORUM. The metadata attached to the objects is generated "on-the-fly" as a searchable XML file that is used as a form of "label" for the objects. The purpose of this XML file is twofold: a) it replaces the Content Package preview by providing relevant, searchable metadata that can be read by a search engine; b) it provides the foundation for future developments by using topic map technologies.

Once existing resources have been converted into reusable learning objects, there are several problems which arise, and which we have attempted to resolve within our repository. These are described by Weller et. al. (2003) as a loss of educational narrative; concerns about the sufficiency of student coverage of content; balancing of student interaction with flexibility in study patterns; balancing variety in objects with the need for a coherent approach; allowing for academic progression. Although our resources were small in number and designed to enhance face-to-face and blended learning, students entering HE from access courses, and those returning to education, require consistency and a clear learning pathway.

Although students told us that they preferred to search for resources, and that they did not use browsing techniques, once the resource is detached from the hierarchical structure of a taxonomically organised website, it is not easy for students to see what they may have needed to do before tackling a resource, or what they might want to do next. There is a risk that students might find inappropriate materials and be discouraged from searching further. It can be difficult to discriminate between objects in a long list; therefore the information returned with the object needs to be detailed and to allow realistic decisions to be made when the user makes the commitment to access the resource.

The granularity of the resources was also problematic. Students told us that when searching for study support materials they wanted a "quick fix", something they could print and keep, or something that answered a question in a timely way. Some of the resources did require a more sustained approach, but where objects consisted of several sections, academic staff told us that they sometimes had a problem with one small part of the information, and that it was not what they themselves told students to do.

We therefore made large sequential learning objects, but also split these into their discrete sections. Although Duncan (2003) argues that the "Lego brick" metaphor of learning objects as discrete items, each of which can be fitted together in a number of ways, does not allow for ultimate versatility, the interface is familiar and the rules of construction require no special skills. The brick metaphor was kept in mind when the objects were being constructed.

Murray et. al. (2005) found that "a surprisingly significant number of students, especially those beginning undergraduate programmes, are also in need of basic ICT skills to enable them to exploit the electronic resources on campus", and that students who have superficially good ICT skills may never have used them for study purposes. A limited range of resources might serve these students better and improve their information literacy skills in the way that the site itself approaches the searching and retrieval strategy.

Self-audits were included as a key part of the resource, with feedback given and suggestions as to what students might prioritise in their search for online help. O'Donnell (2005) reported that students who engaged in an online support package at the beginning of their course reported improved ICT skills. It was hoped that students would construct their own learning pathways through the materials provided.

Searches which rely on metadata are dependent on a shared understanding of terminology in the generation of that data. Learning Object Metadata standards (UK LOM Core) contains fields which do not speak in the way in which users might carry out a web-based search, which will largely involve using a restricted number of key words. The problems of search and retrieval in repositories where metadata is generated not by users, but by cataloguers, are detailed by Currier et. al. (2004), and Ryan and Walmsley (2003), and are accentuated by the need, in some repositories, to carry out complicated database searches. The problems of searching are exacerbated by the fact that each object is a closed entity, and searches can't be made across the content of the object.

A prime consideration of the design was to balance the needs of students, who would need to access information from the site to support their own study skills, with the needs of staff, who needed quick retrieval methods and the ability to upload objects into their VLE. The resulting site consists of an administration and a user interface.

The administration interface allows administrators to add, edit and delete resources. There is also a reporting function built using Microsoft Reporting Services to display information from the SQL database in an accessible way. Statistics are collected across the site for downloads, ratings, views and user-defined tags for each resource in the database. There is a facility to allow keywords suggested by the user to be deleted or hidden if necessary, based on the resource. The user interface, the public facing website, allows the user to search, select, view and download resources in the system.

All metadata created was focused at search and retrieval strategies.

Key headings were:
- Title;
- Description: a detailed description of the resource and how it might be used;
- Question: this field arose from the understanding that students often type a question into a search engine;
- Keywords: an initial set of keywords was created when the objects were uploaded;
- What you might need to have done first: this field was intended to suggest to students any previous knowledge they might need before using a resource;
- Level: the levels adopted were those of Basic, Intermediate, Advanced and All. The decision not to use the HE levels was based on the fact that resources should be need-driven and students have different requirements at different stages;
- What you might want to look at next: again, this was intended to point the student at resources which might follow the one they had found;
- Type of resource: format of the resource for downloading;

- Size;
- Author;
- Date;
- Version;
- Date of last revision.

To get users to interact with the site, and to make it possible to gather data on the objects and their use, some feedback features were incorporated:

- A rating system: users are asked to give each resource a star rating;
- Suggest keywords: users are asked to suggest additional keywords or search terms;
- Comment: users are asked to comment on resources;
- Tag Cloud: tag clouds are a 'Web 2.0' technology utilised by social websites such as Flickr. com (an online photo repository) to show the most popular items in a system visually. If a keyword is repeated, its font size gets larger -this allows users to see the most popular items and gives suggestions for further searches. The "tags", or keywords in the "cloud" act as links to resources.

There are ongoing issues with the mediation of the returned comment, etc. As this has to be done manually, and has a large implication for the maintenance of the site, it is envisaged that this functionality will be removed in the medium-term, although the collection of this information is crucial to the further development of the site.

Evaluation is ongoing as to the effectiveness of the search engine, the content and the way in which users interact with the site. It can be found at http://www.canterbury.ac.uk/graduate-skills

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Learning Together: Reflections On Developing An Online Assessment Skills Workbook For Health And Social Care Students

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Digital technologies have opened up opportunities for the construction of new knowledge through e-enabled dialogue and debate. This project report aims to highlight the learning undertaken during the development of an Online Assessment Skills Workbook, with particular emphasis on the potential for creating an environment for co-operation between schools and accessing skills and resources to develop e-learning materials.

Assessment is a skill that all mental health professionals need. Assessment is a multi-perspective phenomenon, with occasional conflicting theoretical and professional perspectives. In this project the aim was to allow students to engage with an Online Assessment Skills Workbook, enabling them to get a better understanding through dialogue with different professionals of their assessment perspectives. One of the reasons for developing an online version was to overcome some of the traditional barriers to interdisciplinary teaching and learning that exist between schools at the same university.

Rationale

In the field of mental health a service user will often find themselves in receipt of services from a number of different professionals. To provide for the best interests of the service user, it is acknowledged that mental health professionals should work in an interdisciplinary manner to ensure their services are integrated at the point of delivery. Research by Hall and Weaver (2001), Horsburgh, Lamdin and Williamson (2001), Stumpf and Clarke (1999), and Tunstall-Pedoe, Rink and Hilton (2003) illustrates that the 'silo' approach adopted in the training of most pre-registration professionals hinders their ability to work in an interdisciplinary manner when in practice. Added to this is a drive for higher research profiles, coupled with simultaneously competing high administration loads and lower staff-student ratios.

Ross and Southgate (2000) argue that these issues, along with practical difficulties in finding rooms to accommodate large cohorts, timetabling restrictions, different professional requirements and

staffing issues, all account in many cases for the lack of interdisciplinary training in many universities. However, there is a need for academics to deliver a greater amount of quality assurance (Beaty, 2006) and interdisciplinary teaching and learning.

This project explored a number of initial steps taken to address some of the difficulties outlined above through collaboration between the School of Health Sciences and the Centre of Excellence in Interdisciplinary Mental Health (CEIMH) at the University of Birmingham. One of the aims of CEIMH is to promote innovative practice in interdisciplinary teaching and learning through the provision of technical and financial support provided through a Teaching and Learning Fund. One of the most important lessons learnt in completing this project relates to the time and money required to create high quality teaching and learning materials. It is clearly acknowledged that without the provisions of the Teaching and Learning Fund offered by the CEIMH it would have been impossible to complete this project.

We recognised that to equip our students effectively to meet the needs of mental health service users we had an obligation to provide interdisciplinary learning opportunities. One area of obvious focus for an interdisciplinary audience is assessment.

Aims and Objectives

The initial aims at the start of the project (June 2006) were:
- To develop a high quality online assessment workbook, initially for use by nurses on the Mental Health branch of the Bnurs programme at the School of Health Science, before being made available to other schools;
- To enable healthcare students to access online learning materials regarding the assessment of mental health patients;
- To enable students to develop their reflective skills by applying knowledge and skills to practical situations;
- To develop and utilise assessment tools, assessment through observation of body language and environment, an interactive component of questions, video clips of service users designed to help students assess someone's risk by breaking it into historical, current and protective factors;
- To increase the availability and flexibility of interdisciplinary learning and teaching tools for health care students;
- To create realistic simulations to assess life-like patient scenarios that aim to retain and further promote the human element of the assessment process.

The overall project objectives were:
- To devise and develop an online workbook, which achieves the above aims;
- To develop IT systems to support the use of the workbook and student access;
- To contribute to the continuing development of a body of scholarly activities around issues directly relating to interdisciplinary mental health teaching and learning;
- To develop and publish high quality resources that support interdisciplinary mental health teaching and learning.

The reasons for developing this project in an e-format revolved around the following three issues:

1. By creating a Flash-based set of video case studies the aim was to ensure the visual and audio impact of a level of human interaction. We wanted to overcome the problems that written case studies have in conveying body language, environment and other communication issues.

2. All mental health professionals working with people with mental health issues at a certain level have to complete an assessment. Some of these are highly formalised, whilst others are less structured. Within the University, by housing this material within a WebCT environment, there is potential for a wide number of students from different programmes potentially to have access to and develop an online dialogue with their interdisciplinary peers. With careful coordination and participation from academics from other Schools, the Online Assessment Skills Workbook can be used to encourage coordinated interdisciplinary teaching and learning by any of the schools contributing to the CEIMH.

3. By making the video materials open access via the internet on the CEIMH website there is the opportunity for these high quality scenarios to be potentially used by any educator. In the internet format, although context is provided, there is no instruction for how the scenarios should be used. Therefore any potential educator can use these scenarios in whatever context they see fit (www.ceimh.bham.ac.uk/tv).

Pedagogy

The Online Assessment Skills Workbook has been built upon constructivist pedagogy traditions; with the development of asynchronous discussions the project aims to have a student contribution orientation with the express learning aim of developing knowledge of assessment perspectives with allied professions.

Felix (2005) highlights that higher education institutions of the third millennium are striving to portray themselves as flexible, inclusive, collaborative, authentic, relevant and extending their institutional boundaries. Linsley (2007) has discussed the role of e-learning in mental health education and, drawing on the work of Rothbotham (1999), he noted that whilst rote learning and memorisation may have a place within the learning process, learning is not something that is external to the learner, nor is it solely a practice of grafting knowledge and understanding onto a learner.

Learning, ideally, should be a function of understanding; thinking actively about materials, their structure & relationship (Entwistle, 1998), and the scenarios based within a WebCT environment that encompasses the use of discussion forums are a good example of this approach. The idea of having set scenarios that can be diverse in their application is encouraging students to develop their own interpretation of learning resources and construct their own meaning through dialogue with peers.

Consequently, the health and social care students using the workbook take an experiential approach to individual challenges that subsequently allow the learner semi-autonomously to pursue relevant learning. See, for example, the examination of personal values that occur in one of the scenarios called Ronnie (www.ceimh.bham.ac.uk/tv/OnRon.shtml). Personal autonomy is both a part and a goal of the process of learning for health and social care students. This approach supports Linsley's (2007) view that technology-based learning supports humanistic aspects of mental health students' education through the process of allowing them to access, process and reflect upon information when and how they choose, dependent upon the needs of the learner at the time (and within the constraints of an undergraduate assignment).

Proposed Delivery Design

Although in the first year the project will be delivered to student nurses, the long-term aim is to deliver the Online Assessment Skills Workbook to as broad a range of student mental health programmes as possible within the University of Birmingham. We recognise and do not underestimate the level of coordination, collaboration and planning required to achieve this aim. With these issues in mind we have encompassed the following approach in the teaching design of the Workbook to ensure as smooth an uptake of this resource as possible.

The interdisciplinary roll-out of teaching will be housed within an Institutional Virtual Learning Environment (iVLE) adopted by Birmingham called WebCT. The design of the Workbook is based within a WebCT section and assumes the following factors:

1. A number of interdisciplinary learning groups (between seven to nine students per group) encompassing as far as possible an equal number of students from related mental health programmes will be created.
2. These groups, along with a tutor, will be allocated a discussion forum within the WebCT environment with access to the video scenarios produced for the project.
3. The students will take part in a structured timetable that enables them to view the case studies then respond in their discussion forums to a set of questions created to explore the issues of interdisciplinary assessment in mental health.
4. Tutors assigned to the groups will engage with the students in dialogue with the express aim of applying appropriate questions to guide ("scaffold") the learning to meet the aims of the module (Vygotsky (1978), Cooner (2005)).

At the end of the module the students will have a log of their discussions that can enable them to reflect on the learning they have achieved over the duration of the module.

Obviously a number of administrative and organisational issues in relation to timetabling, programme requirements, etc, have to be resolved before students can be offered this type of learning opportunity. However, with the appropriate design and resources in place, as well as the opportunities for asynchronous engagements, some of the perceived barriers to interdisciplinary teaching and learning could potentially be overcome.

Development Process

The following is a brief overview of the steps undertaken to develop the project to date:

Application to Teaching and Learning Fund

An application from Health Sciences was made to the CEIMH for funding, pedagogical and technical development support. After some liaison and modification the application was accepted.

Setting up an Advisory Group

The purpose of the Advisory Group was to ensure that we kept to the aims and objectives of the project. It consisted of a peer academic from the same school, a peer academic from a different school (contributing to CEIMH), mental health service user(s), two students, a member from CEIMH and a professional not from the same discipline as the two academics.

The intentional academic demographic also provided a balanced level of social diversity. The members consisted of six women and two men, with representatives from the ethnic minority and gay communities, as well as mental health service users and one person with a physical disability.

Scenarios

The scenarios were written using the aims, objectives and learning design for the project. These were then presented to the Advisory Group. Changes were made following feedback from the Advisory Group.

Mental Health Service User Focus Group

Five mental health service users were sent (by e-mail) an outline of the project accompanied by the eight scenarios we intended to produce. Changes were made following feedback from this group. This group ensured that the case studies were not stereotyped from a professional perspective and as far as possible highlighted the experiences of mental health service users in the assessment process.

Recruiting actors

To create the case studies we needed actors. This created a number of unforeseen challenges that anyone following a similar route needs to be aware of, especially in the field of developing mental health teaching materials. After the first meeting of the Advisory Group we were encouraged to recruit actors through the School of Drama and, where possible, colleagues and nursing students with appropriate experience. Although three nursing students expressed an interest, only one was prepared to go ahead, therefore an advert was posted for undergraduate drama students.

After the School of Drama advert we were overwhelmed with people expressing interest – we had in excess of fifty responses. We set up a screening process. An e-mail was sent out requesting information about why applicants should be considered. We were trying to explore their awareness and insight into mental health issues. One candidate had acknowledged that she had a mental health illness and was hospitalised as an adolescent, but gave assurances that these issues were in the past. She was offered a role subject to an interview to guard against challenges of exploitation. When this actor was seen it was evident that her mental health issues were very much current. In

her application e-mail she had alluded to previously cutting herself; when asked about this she said that she hadn't cut herself "for a year – well, not that much." She had an extensive community care package and was due to be admitted to a therapeutic community a few days hence. She had a panic attack during the interview and persistently displayed behaviours suggesting mental distress throughout the meeting. Needless to say, we felt it appropriate for us to withdraw our offer of a role in the scenarios.

When recruiting actors for such challenging roles it is important to ensure that the well being of the individual taking part is not put at risk and that appropriate measures are taken to ensure they have the support required to deal with not getting the part.

Production
This consisted of the following three stages:

1. Development of a learning design underpinned by a constructivist theoretical approach.
2. Writing, consultation, filming, editing and post-production of video case studies. The CEIMH has extensive digital video recording, post production and web development experience and facilities.
3. Embedding the final digital outputs in WebCT within a carefully structured learning design encompassing the content delivery and discussion elements of the iVLE. Concurrently providing open access to case studies via the CEIMH website.

Once placed on WebCT, arrangements were made for both the internal and external module moderators to view and give their seal of approval.

Post-Filming Feedback
To maintain quality standards a Post-filming Advisory Focus Group was convened. Segments from 6 scenarios were shown within the learning context to be employed. The rough edits shown to the Advisory Group were generally warmly received. However, the Group did make constructive comments about the editing to ensure we remained within the stated learning aims and objectives of the project.

It was decided to test the learning design by running three different focus groups (recently qualified nurses, student nurses and post-graduate social work students) to try and tease out three different types of feedback:

• whether additional and alternative questions could be generated from the same material to achieve different learning objectives;

• whether students felt there was educational merit in the exercises;

• whether the exercises could be applied to a broad range of mental health disciplines.

A final meeting of the Advisory Group will take place four months after the launch of the workbook. The time gap will enable the project coordinators to give feedback from conferences, as well as on how the first cohort of students received the workbook. At this point also the results of the official evaluation used to measure the effectiveness of the workbook as a learning tool should be available.

Content
In the first academic module when the workbook is going to be used five out of the ten scenarios are going to be utilised. These cover the themes of personal values, risk assessment, environmental risk assessment, assessment of carers' needs and assessment of cultural sensitivity. The four remaining themes (assessment of depression, assessment tools in drug and alcohol use, the use of self in assessment and assessment of self harm) will be employed in other teaching events.

Evaluation
The students will be asked to complete pre- and post-delivery questionnaires. In the following year, when it is proposed that social work and nursing students will simultaneously engage in the Workbook, we will run focus groups where the dialogue will be subjected to thematic analysis.

The first string of the evaluation is to ascertain whether the Workbook improved their mental health assessment skills. The second string is to determine not only whether the Workbook improved assessment skills but also whether the whole process improved interdisciplinary assessment skills and understanding. From this evaluation we will take on the lessons to start pushing this resource out to broader audiences within the University.

Conclusion
The development of the Online Assessment Skills Workbook takes current knowledge for effective design and attempts to apply it to create a high quality web-based interdisciplinary learning environment. In the process, the emerging pedagogies and technologies have been explored and their applicability to interdisciplinary mental health teaching and learning discussed. Preliminary evaluations indicate that this approach has enabled the embryonic design and creation of learning activities that could overcome some of the traditional barriers to interdisciplinary mental health teaching and learning. The process of application, reflection and modification should ensure that the project develops into a design that is fit for purpose.

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Guidelines For Internet-Based Teaching[1]

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This paper presents clear pedagogical guidelines for using the internet in TESOL by drawing on the key findings of a case study carried out in 2004-6 at Intercollege (http://www.intercollege.ac.cy/) Nicosia, Cyprus. The case study described how ESOL (English for Speakers of Other Languages) teachers endeavoured to utilize the internet in their language classes in an ICT (Information and Communications Technology) language laboratory.

Background

The internet is being increasingly used in the teaching of ESOL, and the exponential growth of ESOL websites is a testament to how important the internet has become. Yet realising the potential of this exciting and constantly expanding medium is not a straightforward undertaking.

There seems to be disagreement in academic literature regarding the effectiveness of the internet. Some academics claim that internet-use is advantageous for learning: Frey (2002: 1-4), for instance, states that the internet is awash with activities that offer many new ways of teaching and learning, and asserts that even the most Luddite of university scholars now realise the potential applications of technology. By means of illustration Morrison (2002: 1-7) holds that the wealth of information available on the web affords teachers and learners access to language learning resources like never before. John de Szendeffy (1998: 1-4) believes that "no matter what you think of the World Wide Web as a teaching resource, it will play a grand role in the education of your students".

However, a growing body of research is increasingly sceptical over the use of the internet in the classroom. Warschauer (2003: 1-2) is of the opinion that the introduction of computers, "the flashy or gleaming new machine in the classroom", and the internet in the eyes of its supporters has represented the pinnacle of modernity yet the bold promises made by its proponents were very often followed by erratic and disappointing diffusion. In addition, Warschauer (2003: 1-2) believes that there has certainly been no shortage of bold claims about how computers will revolutionise the classroom, transforming the teacher from the clichéed "sage on the stage" to the new and equally hackneyed "guide on the side". Moreover, Warschauer (2003: 1-2) asserts that there is a

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1   This chapter is a revised version of an article originally e-published in Poland in 'Teaching English with Technology', Vol. 6, Issue 4 (November 2006)
[http://www.iatefl.org.pl/call/j_article26.htm#article2]

"belief" that learners will become "autonomous" and "goal-directed", classrooms will become centres of "collaborative and critical" inquiry, and technology will have finally transformed schools to match the needs of the information society.

A lot of internet-relevant literature also asserts that there is lack of sound internet pedagogy (the word appears to be used in a *method-of-teaching* sense). Wood (1999: 1), for instance, provides an overview of internet sites that could be helpful in the ESOL classroom. He deems that most pedagogical books, articles and "exhortations" about the educational significance of the internet often turn out to be little more than lengthy lists of web page addresses (URLs). It is held by Wood (1999: 1) that "what is often missing from the huge array of internet materials for pedagogic purposes is any clear identification of the new pedagogical opportunities that the internet offers".

Wood, in my opinion, appears to be bringing forward the idea that there is a lack of advice on how to use such internet sites. Kuechler (1996) and LeLoup and Ponterio (2000), however, appear to be arguing that teachers using the web have to make use of their skills/knowledge, the implication being that this is demanding and may not necessarily lead to higher levels of learning and teaching. Kuechler (1996) holds that "the use of modern information technology in college teaching should be driven by the pedagogical imagination of the instructor" and that "more toys (more sophisticated hardware) will not necessarily make better classes". LeLoup and Ponterio (2000: 5-6) hold that ultimately it is incumbent upon foreign language teachers to integrate the internet into the curriculum in a pedagogically sound and meaningful way.

About the case study

The global research aim of the case study was to describe and interpret the key issues six Intercollege ESOL teachers faced over a five-to-seven-month period using the internet. The global research aim also had two associated strands: first, to analyse how and/or why such issues affected teacher awareness of using the internet; and second, to determine how such issues might be addressed.

In this research it was the teacher who was the focus of the study, and the purpose was to analyse qualitatively, through semi-structured interviews carried out at one-to-two-month intervals, how teacher awareness changed. Other data used to inform teacher interviews included: a student questionnaire; follow-up, structured student interviews; a teacher-student classroom observation; a semi-structured interview with the Head of the Languages Department; and samples of teachers' internet lessons. As this research was a case study within an interpretative paradigm, it was held that the research paradigm would suggest discovering and interpreting the personal stories.

The issues that were addressed in the data analysis were grounded in the research data. Data was collected comprehensively with an open mind and, as the study progressed, the data was continually examined for patterns. Key themes were ascertained from the data first and then a link was established, if possible, with issues discussed in the literature. Moreover, no assumption was made that data would pertain conveniently to one issue; rather, it was held that some data might correlate to several issues. In order to identify key hypotheses to be analysed further, an analysis of how teacher opinion changed during the interview period was undertaken.

A key theme that emerged during the study and discernible in all the data was of teachers becoming increasingly *alive* to the implications of certain drawbacks of internet-ESOL lab use. Teachers in their first interview had initially appeared mainly positive about internet use; however, as interviews progressed they seemed to acquire more jaundiced attitudes. Initial teacher enthusiasm about using the internet resonated with literature on the attractions of internet as a teaching resource (as exemplified in Frey (2002: 1-4), Morrison (2002 1-7)). Yet the teachers' heightened awareness of the drawbacks of using the internet in subsequent interviews (i.e. their attitudinal changes) applied to literature on scepticism about internet use (e.g. Warschauer (2003: 1-2)).

Sample Of Interview Data

The data sample below provides an example of teacher attitudinal change. The transcript code below comprises three parts: (1) interviewee teacher number (T1 to T6); (2) semi-structured interview number (1 to 4); (3) interview question number (numbers ranged from 1 to 30). The italics followed by a transcript code are the actual words used by the teacher.

'Teacher 1' sample data

In the account below, negative student comments about lab-lessons changed T1's initially enthusiastic outlook to a more critical one. This suggests that what T1 had been doing in the lab (i.e. her internet lesson pedagogy) may have militated against her students' language-learning expectations. This hypothesis resonates with Laurillard (2002: 202). Asserted lack of appreciation from students for the time T1 had put into preparing lessons also may have raised critical awareness.

In her first interview, which was undertaken a few weeks after using the lab for the first time, T1 seemed to be 'ablaze' with enthusiasm about using the internet. For instance, she stated that she had felt the lab was a *very good alternative to traditional face-to-face teaching, especially at the end of the semester* (T1/1/06). She held that she *loves using the lab* (T1/1/09) and said that she was *very excited about using it* (T1/1/09). She 'pontificated' that *the variety of internet exercises available can help to address students' different learning styles* (T1/1/10) and that her students *enjoyed using the lab* (T1/1/12). Moreover, she seemed to be 'selling out' as a 'traditional' ESOL teacher when she deliberated over the benefits of using the lab in comparison to the then 'seemingly passé' non-ICT classroom. For example she expressed the view that: *instead of me giving the exercises out, the websites do it. They are given the answers. It builds up autonomous learning; they don't need the teacher. We teachers are so vain we want to be the ones that transmit knowledge* (T1/1/11-13). She also mentioned using the internet helped her to teach her students language and computer skills i.e. *things that they are going to use for the rest of their lives* (T1/1/08).

However, approximately two months later, in interview 2, there was a feeling that the 'novelty factor' might have been 'wearing off' and that her students had appeared critical of internet lesson materials. In other words, T1 changed tack: *The first time it was exciting for them, now some of them say that they feel the teacher is lazy because they are doing the work and the teacher sits and monitors them, they don't realise that I have spent three to four hours preparing the lesson* (T1/02/07).

In interview 3, about two months after interview 2, there was more qualitative negative feedback. For example, when asked what kind of feedback she had been getting from her students regarding

her lessons, she responded: *Some of my students are especially outspoken, they feel it's a waste of time* (T1/3/01). By interview 4 (about one month after interview 3), T1 stated, with regard to the twenty percent of students who stated in the questionnaire that they had liked using the internet a little or not at all, that: *Maybe they don't like using the computer for language learning, it's a huge percentage, so it would affect me, I would tend to use it less* (T1/4/02).

What caused raised awareness of the drawbacks of the internet?
Teachers' internet lessons and observation data has provided a precious data source that enables me to assert that pedagogical development lies at the heart of internet use. In this context it implies incorporating elements of traditional non-ICT and ICT teaching i.e. using the internet as a 'tool' for learning. Moreover, it is my interpretation that teachers' inability to use more appropriate internet pedagogy was the most likely cause of teacher perceived student rejection, teacher hesitancy regarding being able to measure student improvement and teacher raised awareness of the drawbacks of internet usage.

Discussion
Below I present some hands-on practical guidelines derived from the case study for teachers wishing to use the internet (possibly in an ICT language lab) and then give some lesson examples of how these guidelines could be observed.

1. Have clear lesson aims and then look for suitable sites: *don't get caught in the web*

Have aims that are conspicuously reflected in lesson materials; not stating lesson aims might be confusing for students. Even though this may appear obvious advice to any teacher, those preparing internet lessons may lose sight of this seemingly fundamental TESOL lesson-planning principle. This could be a consequence and drawback of using the internet. Also, consider to what degree your lesson aims determine the sites chosen and to what extent lesson sites have determined lesson aims. With regard to the latter, a weakness of this approach is that unsuitable sites may be used as a basis for determining lesson aims and teachers may lose sight of how to inextricably link sites to course content.

2. Explain to students how their internet lesson will relate to their course in general: *don't lose sight of this fundamental TESOL principle*

Teachers should tangibly relate internet lesson materials to college exams/tests; in this way teachers might be more able to measure attainment. This guideline is particularly important if teachers intend to use the internet regularly. A possible outcome of not perceiving a higher rate of language acquisition is it increases teachers' awareness of the drawbacks of using the internet for teaching ESOL. Moreover, students may want to see a clear connection between what they do in their internet lessons and what they will be tested on. Also, relate the internet lesson to the course in general. Windeatt et. al. (2002: 11), for instance, state that "anything done in the computer room should be transferable back to the normal classroom", maintaining that students should have something physical to take away with them so that they have a record for follow-up work or end-of-course revision. Students therefore may need hard-copy lesson handouts as well as electronic-version handouts to accompany their internet use.

3. Use technology to reinforce existing practice: *students want a teacher to teach them, they don't want a guide on the side*

Technology should be used in a way that reinforces existing non-ICT practice i.e. the teacher should remain *the teacher* and not become just *the facilitator*. Moreover, why should teachers relinquish their age-old role? Internet lessons that have the highest potential for learning are probably those where teachers have a planned amalgam of non-ICT and ICT roles, and students have timed chunks of autonomous ICT study. The content of the non-ICT part of the lesson should relate clearly to the ICT part.

Introducing autonomous learning without addressing the learning experience and expectations of students may lead to a degree of student resistance, for students may expect to be taught traditionally and so may not identify easily with being *autonomous* learners. Furthermore, relying wholly on interactive, self-correcting ESOL internet activities may compromise the teachers' control/regulation of the lesson, i.e. maybe students expect to be controlled/monitored by the teacher and not the internet.

Another argument for combining traditional teaching with ICT is the possibility of an unreliable internet connection. This may rationalise the need to incorporate non-ICT elements in lessons. If there is no - or very slow - internet connection, the teacher would not have to cancel the lesson, but could concentrate on the non-ICT lesson elements.

Finally, a lot of ESOL internet activities seem to be narrowing the foreign language curriculum to mainly grammar and vocabulary practice. However, the main drive of non-internet related foreign language curricula is to broaden the scope of activity by engaging with communication and intercultural learning. This was a strong argument in favour of combining ICT and non-ICT teaching. Combining ICT with non-ICT is also in accord with Albaugh (1997, stated in Jones 2004: 17) who attaches weight to teachers tending to "adopt a new technology when that technology helps them to do what they are currently doing better".

4. Choose suitable sites level-wise and topic-wise: *if you're not critical of the site content, your students will be critical*

Finding suitable course-relevant Internet lesson sites can be a difficult undertaking. Godwin-Jones (1999: 12-16) notes that a troublesome issue with internet use is locating desirable websites that are appropriate in terms of language level, media format, interest and reliable information. Furthermore, it will be very time consuming to search/choose suitable lesson sites and prepare lesson handouts in Word or PowerPoint format.

Teachers should always pre-screen sites sufficiently well to prepare pro-actively for student questions, and if necessary teach something. This also suggests that teachers should not relinquish their traditional *deliverer-of-content* role. Unfortunately, there seems to be a lack of ESOL-publisher editorial support i.e. there is a dearth of appropriately pre-screened textbook-complementary ESOL-internet exercises.

Try to find sites with comparable vocabulary to which the students have been exposed in their non-ICT classes. One drawback of some interactive sites is that students may not be doing them properly e.g. students can find the answer to sites without reading anything. Windeatt *et al*. (2000: 10) state, referring to internet usage, that in some cases, before beginning an activity on the computer, it will be necessary to pre-teach vocabulary, or a specific function or structure. Long lists of ESOL resources do not seem to help teachers much. This suggests that teachers require more than just categorised hand-picked internet lists or lists of well-known ESOL homepages; teachers need effective pedagogical guidance on how to use the internet materials.

5. How many sites should an internet lesson have? How much time should a student spend on each site? *Find the balance*

Timing and sequencing of internet site materials is an important and complex lesson-planning issue.
- Do not rely on one lesson site, just in case it does not work; use several reliable sites.
- Do not use too many sites; this encourages students to rush through the sites working less conscientiously. Having fewer sites and more teacher interaction (i.e. more non-ICT teaching) might lead to better teacher control over the regulation of learning.
- Beware of ELT-game sites; students will be drawn to game sites when they should be doing other tasks.
- Have a set of core internet exercises for weaker students and additional exercises for students that finish earlier. Even though teachers have to devise ways of dealing with less able students in the non-ICT classroom, teachers may need more time to pre-screen and organise internet materials so as to know which sites should be core for all students to cover, and which ones ought to be additional for more able students.

Practical Application Of Guidelines
Sharing teacher lesson materials may be an effective way to reduce long-term training and support (in accord with Boshuizen and Wopereis (2003, 149), Potter and Mellar (2000, 35), Coles et. al. (2000, 173)). This also suggests that an *ancillary* role of a lab-coordinator should embrace monitoring teacher innovation and circulating effective lesson plans to other teachers. An innovative example of how the above guidelines might be used is available on http://www.englishlab.intercol.edu/internetlessons/ (click '*an example of sound Internet pedagogy*'). Seven internet lessons are also available on the site below (NB these lessons are suitable for approximately beginner to lower-intermediate level). These lessons were written by Katarzyna Rysiewicz from Intercollege (http://www.englishlab.intercol.edu/internetlessons/).

Conclusion
As our understanding of how to use the internet gets better, and more research findings are disseminated, the way we use it will improve. Internet use, therefore, may lead to enhanced learning, and this would fundamentally rationalise its use and future development. Moreover, it is doubtful that the use of the internet in TESOL will be a 'passing fad': it is highly likely that *things will get better* i.e. technology use will improve as technological innovations worldwide are made. This would necessitate and vindicate a more committed approach from schools or colleges who may not be able to achieve learning/financial targets without it.

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'Virtual Workbenches'

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The development of 'virtual workbenches' at the University of Greenwich for use by staff and students has benefited the teaching and learning of computer science over the last five years. The 'virtual workbenches' are a suite of teaching and learning tools that target the computer science curriculum. Each workbench comprises a number of interactive simulation and emulation activities related to a specific domain of computer science. The three domains supported are Networking and Communications, Operating Systems, and Distributed Systems. The tools have been developed and used over a period of five years.

The tools are flexible in the way they are used and can be employed in a wide range of courses (in terms of the course content and academic level). The teaching tools are accompanied by comprehensive, progressive activity sheets which encourage experimentation, analytical and evaluative thinking and reflection.

Motivation

The field of computer science is almost entirely concerned with dynamic concepts, where various parts of systems interact. Common examples from computer science courses include the interaction between an operating system and the processes that it schedules, and the interaction between processes that communicate across networks. However, traditional teaching techniques rely on static resources such as books, 'PowerPoint' slides and worked examples. This mismatch can contribute to students gaining only a superficial understanding of the technical and dynamic aspects of the course content.

There is often evidence of this when exam results are published each year: the 'more technical' subjects tend to achieve lower average marks. As a reaction to the poorer results it is becoming common practice to remove, or 'slim down' technical content because students find it too challenging. This has been happening often quite subtly, but over a period of five to ten years it is quite evident. However, I am opposed to any dilution of content or reduction of technical depth on the basis of student performance.

An alternative is to make learning far more interactive in nature. My way of dealing with this problem is to seek better methods to enable students to understand, and to improve student motivation by making the teaching and learning more interesting, enjoyable and flexible. There needs to be accessible ways to demonstrate and experiment with the behaviour of systems. The student activities need to reflect the extent of dynamism in the real systems. The activities must

enable a depth of understanding to be developed through a number of progressive iterations. The workbench software exemplifies my approach.

Benefits and impact

The Workbenches are platforms that facilitate highly interactive experimentation and dynamic simulation. The tools have a highly positive impact on both teaching and learning, which is summed up by identifying the specific benefits provided:

1. The workbenches turn a user's PC into an exploration space in which they can run and configure experiments to discover how certain parts of systems operate, and how they can be optimised. Students learn at their own pace, repeating experiments as often as they wish, and are in control of the depth of investigation. For most subjects, both 'introductory' and 'advanced' simulations are provided to maximise the range of understanding levels catered for and to make the tools as flexible as possible with respect to progressive learning and experimentation.

2. Students can download the software from a website and use it in their home environment, or even at work during lunchtimes (many 'full-time' students now have jobs).

3. The tools can be used in lectures and tutorials to demonstrate concepts as well as to add interest and aid concentration through variety, since the simulations are colourful and visually attractive (they can be used to interrupt a long slide show, for example).

4. The tools replace *static* representations (which students often struggle with), with *dynamic*, interactive, user-configured simulations (which show how components interact and also the temporal relationships within those interactions). This makes concepts easier to understand.

5. The tools are accompanied by progressive laboratory exercises designed to encourage analysis and critical thinking. The extensive laboratory activity documentation guides students through specific experimental paths and helps ensure that the initial key understanding is achieved. Questions are inserted between the activity instructions, to focus attention on specific behavioural aspects of systems. The simulations are highly configurable and a great many permutations are possible. Once the basic understanding is in place free experimentation is encouraged. The laboratory activity documentation is a great resource for lecturers, reducing preparation time for tutorial sessions.

6. The workbench software is highly sustainable at near-zero cost. There are no software licences required, and no special server computers are needed. The tools can be used simultaneously by an unlimited number of people, in computer laboratories as well as on laptops and home PCs.

7. No special resources are required to use the workbenches. The workbenches operate on unmodified PCs requiring no additional hardware or software. Some of the networking and distributed systems activities ideally need two computers networked together for optimum realism, but these activities have been designed so that they also operate correctly on a single computer by using different windows to represent the different computers involved in the communication, thus enabling a certain amount of investigation when only a single computer is available.

8. The tools aid students' understanding, and introduce variety into their modes of learning. The tools have the potential to improve student performance and thus have a positive impact on retention and progression.

Usage, Dissemination And Exploitation

The use-context is very broad. The core tools are now quite mature, being in their fifth year of development. The workbenches are now in almost continual use within the Department of Computer Science. Most of the teaching in which it is employed is not my own. The original idea was to build tools primarily for my own use, but now I can usually find students using them almost every time I go into the computer laboratories. I find it very rewarding to see the tools in regular use over a wide-range of courses. This is especially true for the networking workbench which has become an integral part of many courses in CMS ranging from first year degree to masters level. Some students are using it during two or more years of their degree; each time going into further detail. The tool is sufficiently versatile that it can still present new challenges even on the second or third occasion that a student encounters it.

At least seven lecturers have used the workbench software on a range of courses within the Computer Science Department, and specific additions have been made to the operating systems workbench to support the teaching of real-time scheduling in the School of Engineering.

In terms of wider exploitation, the software is an excellent advertisement for good practice in e-learning at the university. It has been used by several other institutions – the 'partner colleges' involved in our IMIS degree scheme. These partner colleges account for several hundred University of Greenwich graduates each year in overseas locations around the world.

The software has, to date, been used as additional support to traditional courses (i.e. the courses themselves have not been e-learning courses, but have employed the software to enhance the teaching and learning experiences). This hybrid approach is certainly successful. The software facilitates experimentation around key concepts, and adds variety and flexibility to the learning experience. The tools are, however, completely suitable for integration into a fully e-learning, or distance-learning based, study programme.

Evaluation And Feedback

In general the feedback from users (staff and students) has always been strongly positive and this is a main encouragement and drive for me. More specifically the feedback falls into four categories:

Feedback via student critique in coursework. One lecturer based an entire coursework task around the operating systems workbench. As part of this assignment the students were asked to evaluate critically the quality of the software, in terms of its usability and the way in which it represents the behaviour of systems. This feedback was on the whole very positive although some specific aspects that could be improved were highlighted too.

Student and staff responses to questionnaires. Seven lecturers responded and a few students (the timing was poor on my part and most students were busy revising for exams). This questionnaire

asked about the ways in which the software was used (e.g. lectures, tutorials, laboratory tasks, coursework, or unsupervised learning) as well as its suitability as both a teaching and learning tool. The feedback highlighted the range of ways in which staff were employing the software, and was generally very positive.

Personal teaching experience. I have used the software in my own teaching. I find that to get the best results it is best to introduce the software during a lecture, demonstrate how it works and what it can do. I then use the software in laboratory sessions or incorporate it into coursework tasks. I give the students a selected set of the pre-prepared activities to complete (depending on their ability level and the goals of the lesson) and then advise them to experiment freely with the simulations. Many of the students really do appreciate the software and comment positively on the ways in which it helps them to understand issues.

Requests for modifications and additional features. Several lecturers and a few students have asked for additional features to be added to the existing simulations or for new simulations to be added to aid the teaching of additional topics. I take these requests on board where possible (if they are feasible) and incorporate the new functionalities as soon as I can. These requests are really motivating because they demonstrate thoughtful use and evaluation of the existing software.

On the basis of the feedback and comments from the staff and students using the software (and reinforced by my own experiences) I am convinced that the software has helped many of our students to gain a better understanding of some of the dynamic, technical aspects of their courses.

Observations And Lessons Learnt

E-learning offers great potential, although there is an up-front cost to be paid in terms of the significant effort which is needed to get projects up and running. The amount of time taken to develop e-learning materials should never be underestimated. In my opinion, this is the single biggest problem - far more significant than technical hurdles.

However, in the longer-term the rewards far outweigh the costs and therefore I strongly think that it is increasingly important to motivate lecturers to develop e-learning tools such as the workbenches and to take advantage of new technology. This has the potential both to enhance the student learning experience (and thus the University's reputation, for example in terms of retention), and to reduce the burden on lecturers (eventually, i.e. once a certain level of resources are up and running).

A significant proportion of the development time is spent on the user interface. In the case of the workbenches this involves devising ways to represent the system behaviour clearly and precisely in a simulation model, and working out how to incorporate the required instrumentation so that the activities are easy to follow, and can be very flexibly configured, without adding excessive complexity to the user interface.

An incremental development approach is necessary. Over a five year period I have developed a suite of modular teaching and learning tools that can be incrementally extended and upgraded as required. This, I think, is a very important aspect. Projects are unlikely to go from zero to fully operational in one step, over a one-year project lifecycle. An incremental approach should be encouraged. This enables an early pay-back with some working functionality, whilst allowing reflection on the part of the developer before the next phase. The incremental approach (if planned) also promotes continuity, rather than stop-start fragmented effort which is likely to be inefficient.

The workbench software is unique and has many novel aspects. In this regard it shows the University in a very good light in the context of teaching and learning practice. The tools are tailored specifically to the learning needs of *our* students, on *our* courses and in several ways this software is ahead of the field. As such it is an excellent example of our capabilities and professionalism with respect to teaching and learning.

The workbench *concept* is transferable to any academic domain in which systems have components that interact in dynamic ways. This generally includes engineering, biology, medicine etc. Obviously the current tools are only applicable to computer science. Parts of the code and simulation logic can sometimes be reused across different activities, but fundamentally some specific design and development is needed for each activity supported.

As a computer scientist teaching computer science, it seems only natural to me that we should use computers to the greatest extent possible to facilitate high quality teaching and learning. The development of the software tools is itself a form of continual professional development for myself, in terms of developing teaching materials and also in actual software design and development.

Future work
The software has been developed and extended over a five year period to date (of which two years have been funded by the Division of Learning Enhancement, Access and Partnership (LEAP) e-Learning Projects scheme at the University of Greenwich). Development will continue, as and when specific requests are received from staff, or whenever opportunities to bring yet further technical concepts to life through simulation or direct experiment are identified. The software has been purposely designed in a modular way to facilitate this.

There is also a fourth workbench planned, Computer Science, for which several activities not covered by the other three workbench domains have been identified. To a certain extent the future expansion of the workbenches is only limited by imagination and the amount of time available (and of these, time is the most restricted), as almost all aspects of computer systems can be represented by some kind of simulation or emulation to enhance understanding.

Resources

The latest versions of the workbenches are available at the following URLs:

Distributed Systems Workbench:
http://staffweb.cms.gre.ac.uk/~ar26/StudentResource/DistributedSystemsWorkbench/
DistributedSystemsWorkbench.htm

Networking Workbench:
http://staffweb.cms.gre.ac.uk/~ar26/StudentResource/NetworkingWorkbench/
NetworkingWorkbench.htm

Operating Systems Workbench:
http://staffweb.cms.gre.ac.uk/~ar26/StudentResource/OperatingSystemsWorkbench/
OperatingSystemsWorkbench.htm

Students and staff can download the software and the accompanying documentation, which includes detailed, progressive, activity worksheets.

Creating Learning And Unlearning Opportunities From Turnitin In The Process Of Academic Writing.

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Anti-plagiarism software such as Turnitin can offer surprising opportunities for students to 'unlearn' bad scholastic habits. Turnitin is the electronic text-matching tool developed in 1994, and now used in approximately 85 countries worldwide (iThenticate 2007), principally as a means of plagiarism detection. When student assignments are uploaded onto the Turnitin website, originality reports are generated which highlight the students' use of other authors' words. Undoubtedly, in the current climate of increasing plagiarism, electronic tools to assist educators in detection are important. However, the aim of this study is to examine the potential learning opportunities with the use of Turnitin before assessment.

This research study involved international pre-Master's students on an Extended Writing Project module in which they were required to write a 3,000 word mini-dissertation. Their first drafts were submitted to Turnitin and then the originality reports were used as part of an individual tutorial feedback session. This gave the tutor and students an opportunity to discuss use of sources in a meaningful way as it involved students' own work, but without the pressure of a grade. In this way, a use may be designed for Turnitin to support, where appropriate, the 'unlearning' of previous academic conventions and study habits, and encourage students to achieve a more effective level of academic literacy.

The Context Of Learning And Unlearning
Currently, plagiarism is shown to be still growing enormously, therefore more flexibility in the approach to dealing with it seems desirable. Research has demonstrated that students benefit more from plagiarism education than punishment, to avoid what Carroll (2005) terms a "catch-and-punish" approach. With a cohort of mainly East Asian international students, it was considered that using the text-matching tool Turnitin during the process of completing a longer written assignment could offer the opportunity to gain awareness of how to use sources appropriately within UK conventions, without any fear of punitive assessment (such as failing for plagiarism).

The students in the investigation had completed undergraduate degrees in their own countries, using different academic conventions, generally without a need to use in-text citation and with an emphasis on reproducing text. These habits would need to undergo a process of unlearning, defined here as giving up previously learnt strategies in favour of new ones, in order to follow UK academic conventions. Guidelines regarding effective use of sources and avoiding plagiarism were widely available in the form of library guides and handbook warnings, and at least 6 hours of class time was dedicated to instruction about effective use of sources, supplemented by online discussions on the topic. However, the results of many studies (eg Barrett and Malcolm 2006) indicate that students do not learn about plagiarism until they receive information about it in relation to their own assignments. Thus, the aim of the researcher was to offer students this key learning and unlearning opportunity.

Turnitin was developed by Dr John Barrie at the University of Berkeley, California in 1994. With a vast database of 8 billion web pages and over 10,000 periodicals, it is currently used by approximately 85 countries worldwide (iThenticate 2007). Since its establishment in the UK in 2002, 85% of universities have begun using Turnitin, mainly in its role within plagiarism detection, according to JISC-PAS (2007). This study focuses on the design of a more integrated use of Turnitin in the formative process of academic writing. It aims to exploit the potential of Turnitin as a readily available electronic tool for improving academic literacy within the learning process of drafting written assignments, particularly, though not exclusively, in the case of international students.

Literature review

Current studies concur on the global increase and diversity of plagiarist practices (Carroll and Appleton 2001, Hayes and Introna 2005). Many of these studies have attempted to categorize the increasingly varied forms of plagiarism; this study will refer to the three types defined by Howard (2000), in order of seriousness, as: intent to cheat; not referencing because of not understanding conventions; and "patch" writing, described as using sources correctly referenced but without evidence of individual thought. While not ruling out the first type, the analysis of student work in this study will focus on the second and third types, which seem to result from a lack of awareness and understanding of UK academic culture, and in the case of "patch" writing, a reliance on other authors' words combined with a lack of confidence in one's own words.

These forms of plagiarism would appear to be deeply connected to cultural issues in relation to international students. For example, East (2005:3) in an Australian study of her predominantly Chinese students, explained that many "come from educational cultures where copying is an expected learning practice", so being told not to copy, or to include in-text citation next to the use of other authors' words are likely to be very big changes to assimilate for these students in their approach to writing assignments. The challenge for international students to unlearn, described by Carroll and Appleton (2001) as "setting aside previously successful strategies and learning new ones", is clearly an enormous one; the use of Turnitin by the tutor at the formative stage may help students to overcome this challenge. Studies by Peacock et al (2006) and Barrett and Malcolm (2006) have revealed that this application of Turnitin has considerable potential to encourage learning about plagiarism. This study aims to exploit more specific advantages from the software.

Methodology

The context was within the teaching of a year-long pre-Master's course of English language and study skills with 19 international students (80% East Asian, from China, Japan and Korea). They began with a minimum entry of IELTS 5.5 and were expected to reach a level of at least 6.5 by the end of the course, in preparation for access to postgraduate courses. The study is focused on a module entitled the "Extended Writing Project" in which a mini-dissertation of 3,000 words was written. In week 9, the students' first drafts of the project were uploaded to the Turnitin website by the tutor. Originality reports were then generated by the software, which indicated all use of sources with colour coding. These colours showed the overall percentage of words from other sources as follows: under 20 words = blue, 0-24% = green, 25-49% = yellow, 50-74% = orange, 75-100% = red. The sources used most by the student were positioned at the top of the list.

The colour coding in the tool makes identifying sources easy, but the report itself does not determine plagiarism, which needs to be decided by the educator. Before the feedback discussion, the role of the tutor was to establish whether aspects of the originality report indicated correct use of sources, or incorrect use which would lead to plagiarism. Careful interpretation was needed, as, for example, those reports coded as blue or green may include incorrect use of sources, while those as yellow may display correct use of sources, although were likely to contain over-reliance on other authors' words.

Next, the individual feedback sessions of 15 minutes took place in which Turnitin was used to encourage student learning in key areas of plagiarism education, such as consideration of the appropriate amount to use a particular source or number of sources and thus avoiding "patch" writing, use of correct in-text citations, appropriate paraphrasing, accurate copying of direct quotations and overall avoidance of plagiarism. The discussion was an open one, without any threat of punitive assessment, unlike the study by Barrett and Malcolm (2006) in which a heavily plagiarized first draft could only achieve a bare pass in the final assessment.

Suggestions were also given or elicited from the students about how to make more effective use of other authors' words in their assignments. Students then had the time to improve their drafts before the assignment deadline 3 weeks later. The final drafts were also submitted to Turnitin and the results used in assessment. The impact of this approach was analysed from improvements and changes in the identified areas of plagiarism education shown in the reports. A student feedback questionnaire and focus group provided further evaluation of the project.

Findings and analysis

The direct comparison of the overall similarity reports between first and final drafts revealed a significant change in the four main areas of the amount sources were used, the accuracy and completeness of citation, the appropriateness of paraphrasing and the avoidance of plagiarism. One area identified in the methodology - the correct copying of direct quotations - was not perceived as significant in this study, so will not be explored.

1. Source use

Regarding the amount sources were used, the results are shown by Turnitin in the overall similarity reports and could easily be compared. Almost two-thirds of students had a lower percentage of use of other author's words in their final drafts, with the majority between 10-20% being in the green, suggested 'safe' area of Turnitin results. In addition, as Turnitin also shows the percentage score for each source used, it was possible to see the difference for the most used source in each draft. First drafts included very high results for the most used source of up to 31%, while the highest result in the final drafts was 7% (one student's use of statistics). Almost all final draft results for the most used source were under 5%, which seems to indicate that through understanding the colour highlighting of Turnitin, students could be encouraged to adopt a more suitable level of other authors' words and reduce it in cases of over-reliance or "patch" writing. Barrett and Malcolm (2006) set a threshold level of 15%, but it was not deemed useful to set a threshold in this study given the variability within any score.

2. Citation

Use of citation was compared between drafts by counting the occasions in which citation was attempted but not used correctly (for example, where the first name was given), or incompletely (such as where the year of publication was not given). The number of these cases went down by over 50% in final drafts. The highest number of these errors in first drafts was 15, while the highest in final drafts was 4, showing increased awareness of how to use citation accurately. Thus progress appears to have been made by more than half of the group in their understanding of how to use citation effectively, and to avoid the second form of plagiarism identified by Howard (2000) as coming from lacking understanding about UK conventions.

3. Paraphrasing

The appropriateness of paraphrasing could be examined from the Turnitin reports since the software shows highlighted strings of words from the same source in colour including gaps where attempts to change some words are in grey. The number of paraphrases deemed inappropriate were calculated as those strings of 10 words or more identified by Turnitin in which students had changed between 1 and 4 words. In this case, approximately 37% fewer students had less inappropriate paraphrasing, which was not a high result, although the amount of incidences per student decreased from a maximum of 8 to 4. The reason for this weaker result could partly be explained by the fact that a third of students submitted a shorter first draft, so that the final draft contained more attempts at paraphrasing. However, student feedback suggested that they did feel they were learning about paraphrasing through the use of Turnitin; one commented "It highlights some part of bad paraphrasing, then we can correct it".

4. Plagiarism

Finally, and most importantly, the incidences of plagiarism, calculated by the number of sentences which were highlighted by Turnitin as textual borrowing, and were without any citation, went down by 91%. First drafts contained up to 32 sentences of plagiarized text, while final drafts contained a maximum of 4 such sentences. This implies that students were internalizing plagiarism education and able to make suitable corrections to their drafts after the discussion using Turnitin. Furthermore, a student connected the reason for wanting to use Turnitin again with a desire to

avoid unintentional plagiarism, in other words the second and third forms of plagiarism previously identified by Howard (2000), in the comment: *I would like to use it again because sometimes we do plagiarism without noticing it*.

Additionally, it is emphasized that, in this study, the guidance from the tutor seemed crucial in the interpretation of Turnitin, as students were shown to have difficulty understanding the percentages and evidently benefited from discussing their use of other authors' words. Therefore, tutor guidance was preferable to self-access to Turnitin, which could lead to inappropriate interpretation and would lack the valuable tutorial feedback.

Overall, an important result was the lower rate of failing marks due to plagiarism than previous years. Further evaluation from the students' feedback questionnaire on their views of Turnitin and a focus group at the end of the module was also positive. One comment was that: *The software shows your mistakes… then we can correct them. At the end, when we submit the final draft, we don't want to fail.* Students perceived that the advantage of Turnitin in this study was to avoid failing the module by correcting mistakes related to plagiarism.

Conclusion

This case study is an example of effective design for learning in that a need was responded to concerning plagiarism education rather than punishment, leading to some positive results. The design of this project has been successful in establishing central objectives related to education in academic literacy, specifically regarding the consideration of the amount to use sources, the use of correct and complete citation, appropriate paraphrasing and the avoidance of plagiarism. In this way, it has provided some direct and meaningful learning and unlearning opportunities for students.

The results, in terms of perceived improvements in final drafts and student assessment of the tool, indicate that there are significant benefits for both the student and the educator in this use of a readily available means of displaying the use of other authors' words within the student's own work.

This case study indicates that Turnitin could be used as an integral part of a teaching strategy, before assessment, to support awareness-raising about UK academic conventions and more effective academic literacy as essential skills for university study. It is hoped that lessons learnt using Turnitin would become transferable skills for future postgraduate study.

Recommendations

Recommendations for educators about the role of Turnitin as a learning tool are to use it before assessment, to discuss students' use of sources openly, to guide student interpretation of the results and to exploit the analysis of the reports in relation to the amount sources are used, the accuracy of citations, paraphrasing and avoidance of plagiarism. Further research would indicate more aspects of academic literacy which could be studied from Turnitin reports, and should also include tutor evaluation of Turnitin, which was missing from this study. In addition, further tracking of student progress in their next course would help to ascertain if the learning and unlearning experiences on this module are transferred to continuing academic study.

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Personalising Virtual Worlds

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Arriving at my destination - a large two-floor thatched-roof bamboo beach house standing on a sub-tropical island whose sandy, palm-fringed shorelines descend gracefully to the deep blue ocean - I seem to forget immediately the frustration and fatigues of the journey that brought me here. And isn't this usually the case? Well, yes - but this is not the South Pacific, it's Second Life, and my journey was not measured in Air Miles but in years.

This particular journey started for me with a web server that I used to distribute course notes and results to students back in 2001. As time went by, the services grew to include chat rooms, journals and calendars. After that project was decommissioned in 2003, I discovered the Moodle VLE, with its comprehensive and expanding tool set of services and facilities, all available for free and promising more seductive future applications developed by a global open source community.

It was from here I began to explore possibilities of disseminating materials and services to students that went beyond my traditional role of instructional teacher. For me, the Social Constructivism that Moodle supports offered huge potential to develop the finer and more adventurous aspects of learning beyond the teacher-led model.

In the summer of 2006 I arrived in Second Life with the vision that here I could blend all the collaborative tools, services and methods from web 1 and 2, with the unique sense of social presence that becomes possible in Second Life as, along with other virtual worlds, we stand witness to the ushering in of web 3D.

Even a cursory look at Second Life reveals that the uses to which it is being applied range right across the spectrum. In my opinion, this is the "killer app" of all social networking.

My first realisation was for the need to own land - essential if you wish to establish a permanent build, but for which you have to start paying. A small islet of around an acre comes in at some L$15000 - not so bad when currency conversion takes it to a relatively painless £30! And then there's the monthly rent of around £12.

So I have my island, what do I wish to do there? Well, in a way the same things that I would normally do with my teaching and learning. While bringing on side those features peculiar to a 3D world like Second Life, I decided to include:

- Presentation – Teaching
- Personalised Learning
- Collaboration

Design and Build

But I need a place where all this can happen - what should it look like, include and feature? I find some good ideas and guidance in 'Designing Space for Effective Learning' from JISC; but hold on, surely this refers to physical space, not virtual? Well, "Everything you can imagine is real" (Pablo Picasso).

A large ready-made, two-floor beach house seems to fit the bill. Not only does this have the space, virtually speaking, there is also the aesthetic appeal. I purchase the building in-world (in Second Life) and it dutifully arrives in my inventory. From here I simply drag the item onto the surface of the island, click on it and it rezzes (that's Second Life speak for "comes into existence", as opposed to de-rez from the movie "Tron"). Filling the beach house with many of the resources proves to be no big problem; many are available for free in-world or can be purchased from web sites like SLExchange and SLBoutque. Both these sites will link directly to your Second Life avatar presence, with any items purchased sent to your in-world inventory; it's all very seamless.
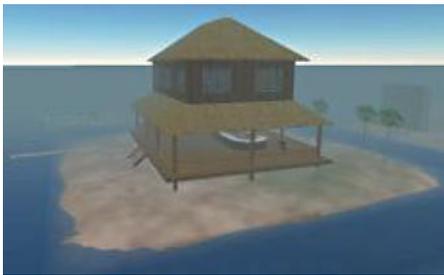
So this solved my requirements for incidental furniture (though why virtual avatars need to sit, or for that matter emulate their real life counterparts' physical expectations to any degree, is a matter of serious on-going debate). In addition, I had soon acquired a slide board for my PowerPoint images and a media player for my streaming videos[1].

With the ground floor of the beach house fitted out for the presentation of class collaborative activities, my attention shifted to personalisation; providing a set of resources that will allow student flexibility in terms of sequence, content and time. The debate still rages between those SL fundamentalists, who occupy the position that all resources should be purely SL in-world, and the

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1   With regard to this last point, media in Second life is handled through QuickTime and not Windows Media Player; however, a distinct advantage to this lies in the support for SMIL (Synchronised Multimedia Integration Language). If you have not heard of SMIL before, it allows you to synchronise video, images and audio through a simple text based mark-up language, removing the need for heavyweight applications such as Macromedia Flash.

pragmatists (such as me), who are more than happy to utilise the wider set of technologies to include those of the internet.

The next decision was: how should it all be presented? Up to the second floor for that one, where as you can see from the screen shot I settled on "a books in the library approach". The books I either bought in SL or made for myself, which in fact most were. The material in the books take the form of my own set of web-based tutorials in programming that cover C, CSS, HTML, Java, JavaScript, SQL, WML and XML. Upon touching a book (left mouse click), a small popup window will appear containing the content. The advantage here is that only the student carrying out the exercise can see the material. Had I elected to use an in-world solution then other avatars would have been able to see each other's studies, so it would have been less personalised.

One of the difficulties that faced me here was in the application of the subject material. In order to learn and experiment with programming, you do need to be able to run programs, which traditionally means calling up some desktop application, in other words task switching out of SL. However, with some research and a cunning plan I managed to locate web-based resources for all these, made available through the Try-it Live boards mounted above each rack: to run programs, simply copy and paste from the web-based tutorial to the web-based emulator and run your programs, and all without leaving the beach house!

It occured to me that SL residents might also like to use these resources. To accommodate this eventuality, I provided a set of video tutorials that can be run on demand. For anyone that has used a VLE, and we use Moodle, you will be able to see through the reports facility how often your materials are being accessed and by whom.

But can I get this data from SL? After some thought, I decided that all my resources could now log access to a MySQL database running at Bromley College; thus every time that an avatar clicks on a book or Try-it Live panel a record is written.

In fact, I took this resource logging technique a stage further and produced a simple quiz panel that poses a set of questions preceded by a line number. To answer, an avatar enters the line number that they think gives the correct answer through the chat channel. Incorrect answers produce suitable feedback to the avatar through the chat channel, while the correct answer will cause the board's background to glow green and the avatar's details, along with the number of attempts, to be written to my database.

This covers the main resources at the beach house, and from early trials and ongoing feedback, along with data-logging from SL residents (which currently stands at 822 over the last four months), the resources would seem to have achieved my initial requirement for a Learning Space.

One issue I did have in mind was being able to present learning materials in-world utilising SL technologies. To this end I started to think about both learning objects in general and what I could do with SL that would not be possible in RL (Real Life). I have had some experience with both using Learning Objects, principally through NLN materials[2], and designing my own using Course Genie, but how could I produce the equivalent in SL and what should they look like?

So far I have come up with two basic designs: both use the ability to rez and de-rez 3D objects in real-time, accompanied by sequenced information presented through chat and/or slide images. I placed my test version on the ground floor of the beach house and invited residents to try it out and get back to me with impressions, which were very favourable.

I soon faced a dilemma, however, as to where to place my ideas for a collection of the objects, as the beach house by this time was getting pretty full. The answer was a sky platform. In SL you can quite legitimately place structures in the sky starting at 300m altitude, then providing you create a Teleport facility then others can visit also. So I purchased a platform, rezzed it into position and set about making an aerial museum of computing. And of course this extra space would have seating and meeting areas where avatars can get together, chat about things computing, or simply chill while taking in the uninterrupted views of SL sunsets and sunrises from almost 1000ft.

With fabrication of the museum complete I set about filling it with my new learning objects. In addition to all this, however, is my plan to have students contribute to the material by producing content. There is a great deal of talk in SL surrounding collaborative building projects and this is my implementation of that particular idea.
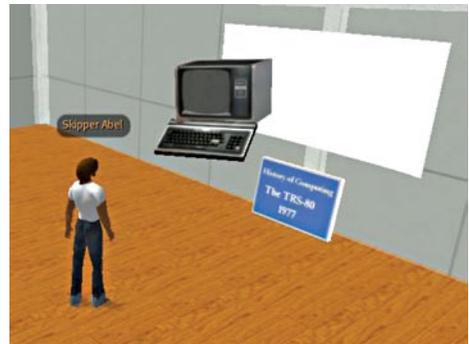
Facility Feedback

From early in the development of this project, I had wanted to gauge potential user impressions of the facility and so I acquired a simple survey for all visitors to the beach house. The survey tool I picked up as a free-be in-world, and modified the script to include specific avatar details along with my own questions. The survey only comprises two very simple questions - Do you like this location? and Would you return for some virtual classes? The positive responses have been very encouraging, especially if you bear in mind the fact that this is

2   For examples of NLN materials, visit http://www.nln.ac.uk

not a VLE, and so formal or even collaborative learning in the traditional sense is not likely to be high among visitors' priorities.

Learning Trials

In February 2007, I decided that it was time to put the place through its paces and run some learning trials. As no student groups of my own were visiting at this time, I decided to recruit the cooperation of SL residents and posted a message to the SLED (Second Life Educators Digest) newsgroup, with an open invitation. I used the subject of Software Design as the core material and presented the sessions using pre-recorded video sequenced with images, objects and slides. Following each of the trials we would get together for a plenary chat. I asked for feedback from the groups and I have copied some of the results below:

3d objects improved quality:	4
Whiteboard was beneficial:	5
Discussions were useful:	5
Media style satisfactory:	5
A worthwhile e-learning experience:	4
I would attend future events:	5
3d objects improved quality:	4
Whiteboard was beneficial:	4
Discussions were useful:	4
Media style satisfactory:	3
A worthwhile e-learning experience:	2
I would attend future events:	4

[Key: 1 strongly disagree; 2 disagree; 3 neutral; 4 agree; 5 Agree strongly]

During one of my regular trips to the London RSC Moodle RUG, the proposition was made that we should hold the next meeting purely on-line as a series of separate strands, and I quickly offered Shimmer Island as the venue. The event proved especially valuable for me with regard to the very positive feedback that I received from candidates. Two of the avatars attending (Lulu Minnelli and GlooBoy) produced some very complimentary images and video diaries of the event and I have included the web addresses in the bibliography.

Learning Communities

My latest additions to Shimmer Island are two beach huts that function as small private meeting areas for group collaboration and will be used in support of my wider trials using the Community of Enquiry model with the Moodle VLE. My design concept here has been made complete with the arrival in Second Life of real-time speech, which provides an even more immersive, engaging experience and will, I am sure, rapidly come to replace the more tedious typed text chat mode of communication.

The Future Of Shimmer Island

My journey in Second Life started in September 2006 as a private part-time venture to explore the possibilities for teaching and learning. It has realistically taken me nearly a year to design, build, code and trial the facility ready for its roll-out as a functioning 3D semi-immersive Learning Space ready for deployment as an integral part of main stream courses. For me the whole experience has been both consuming and fascinating and leaves me totally committed to taking forward the emerging technology of web 3D into mainstream Further and Higher Education.

Resources

Second Life website
http://secondlife.com/
Shimmer Island slurl
http://slurl.com/secondlife/Daydream%20SE%20Islands/29/105/24
Shimmer Island Bog
http://shimmer-island.blogspot.com/
London RSC LEON Strand D
http://moodle.ulcc.ac.uk/course/view.php?id=67
YouTube - Museum of Computing
http://www.youtube.com/watch?v=GGWDfthhwHs
YouTube – Second Life at Shimmer Island
http://www.youtube.com/watch?v=3WdCyreAsJQ
YouTube – Using resource tutorial at Shimmer Island
http://www.youtube.com/watch?v=lDCnG-OAHCc
YouTube – Data Storage learning trial
http://www.youtube.com/watch?v=jU8Y7xomgns
Lulu Minnelli blog
http://elearningartanddesign.blogspot.com/
Kevin Brace JISC RSC West Midlands
http://www.vimeo.com/clip:187283
SL Exchange
http://www.slexchange.com
SL Boutque
http://www.slboutque.com
Second Life Educators Digest newsgroup
https://lists.secondlife.com/cgi-bin/mailman/listinfo/educators
Designing space for effective learning
http://www.jiscinfonet.ac.uk

Developing a Pedagogical Planner

Leanne Cameron
Macquarie University

A number of projects have recently emerged with an interest in developing a tool to guide lecturers through the learning design process so that they might develop effective and pedagogically sound learning designs. Five of these projects - Phoebe, LearningMapR, Compendium, QUT's Learning Design Templates and the LAMS Activity Planner - are outlined below.

Introduction

An ongoing obstacle to the widespread adoption of effective and engaging e-learning is the degree of pedagogical understanding required by a lecturer to make the most of the available resources (Heathcote, 2006). For this reason, a number of projects have emerged with an interest in developing a tool to guide lecturers through the learning design process so that they might develop effective and pedagogically sound learning designs.

The choices and decisions made by experienced lecturers could be documented and used to allow the less experienced to follow the thinking behind their learning design. Additionally, it might also be used as a creative tool helping experienced lecturers clarify and structure their thinking as they engage in the process of learning design (John, 2006). The tool would be designed to stress the core elements that should be followed if a lesson is to be a success, and thus pull together the lecturer's thinking into a clear, definable classroom guide. The nature of the students, types of technology and learning activities available, the pedagogical approaches, the learning environment (both physical and virtual), the learning outcomes and the roles of all the participants involved in the learning design would be considered and noted within a chronological scaffold (John, 2006).

Even very experienced lecturers report that the exercise of formally describing their plans and intentions, reflecting on their reasons underlying design choices and responding to questions in a non-judgemental environment seemed to breathe new life and meaning into their teaching (Clark, 1998).

Therefore, this tool might be used for any of the following purposes:

- As step-by-step guidance to help practitioners make theoretically informed decisions about the development of learning activities and the choice of appropriate tools and resources to undertake them;

- To inspire lecturers to adopt a new teaching strategy and support them in doing so (Falconer, Beetham, Oliver, Lockyer & Littlejohn, 2007);
- As a database of existing learning activities and examples of good practice which can then be adapted and reused for different purposes;
- As a mechanism for abstracting good practice and metamodels for learning (Conole & Weller, 2007); or
- To produce a runnable learning design intended for direct use by students (Falconer et. al, 2007).

How Would We Define This Tool And What Should It Be Called?

For the purpose of this paper, the JISC "Models of Practice" definition will be used to describe this tool: "Generic approaches to the structuring and orchestration of learning activities. They express elements of pedagogical principle and allow practitioners to make informed choices" (JISC, 2006: 3). Practice Models have many potential uses: they describe a range of learning designs that are found to be effective, and offer guidance on their use, they support sharing, reuse and adaptation of learning designs by lecturers and also the development of tools, standards and systems for planning, editing and running the designs (Falconer et. al., 2007).

We will refer to this tool as a "pedagogical planner" rather than the JISC term "Models of Practice" as the former appears to be in widest usage. However, it is worth noting that other labels used to describe the various tools currently under development include: "course builder", "lesson facilitator", "activity planner" and "a model of practice".

Current Pedagogical Planner Projects

The following factors at Macquarie University have created an environment that may be conducive to the implementation of a pedagogical planner:

- Many lecturers have no formal teacher training so pedagogical knowledge cannot be assumed;
- For most lecturers teaching competes with other priorities, eg. research;
- Lecturers are being asked to demonstrate the high quality of their teaching as a promotion criteria;
- e-learning is being increasingly encouraged and, even for those with formal teacher training, introducing pedagogically sound e-learning teaching strategies can be a challenge.

Anecdotally, it has been said that these factors can lead to "teacher-centric lessons", that is, traditional teaching approaches, eg. the transmission model, which can lead to disengaged students. However, how do those lecturers without formal training go about discovering new teaching strategies?

As previously mentioned, a number of pedagogical planner projects are currently being developed in an attempt to address this issue and five of them are outlined below:

1. Phoebe

The rationale behind the Phoebe project is that successful innovations in IT reflect, and build on, the ways in which users actually work, rather than requiring them to adapt their practices. The project team aim to produce a tool that propagates the principles of effective practice to as wide an audience as possible, by allowing them to develop new pedagogical approaches while still using the planning tools with which they are familiar (Manton & Balch, 2007).

The Phoebe planner tool is designed to fit lecturers' current approaches to designing learning but also to help develop these in positive ways. Thus, Phoebe will reflect the wide variation in existing practice by offering users both flexible and guided paths through the planning process, while at the same time enabling them to access a wide range of models, research findings and examples of innovative learning designs, intended to encourage them to explore new approaches and tools in their pedagogy. In addition to mapping out their learning designs, users will also be able to record their personal response to the material that they encounter and share them with colleagues and other practitioners, whether to support collaborative planning or to facilitate re-purposing into other learning designs (Manton, 2007).
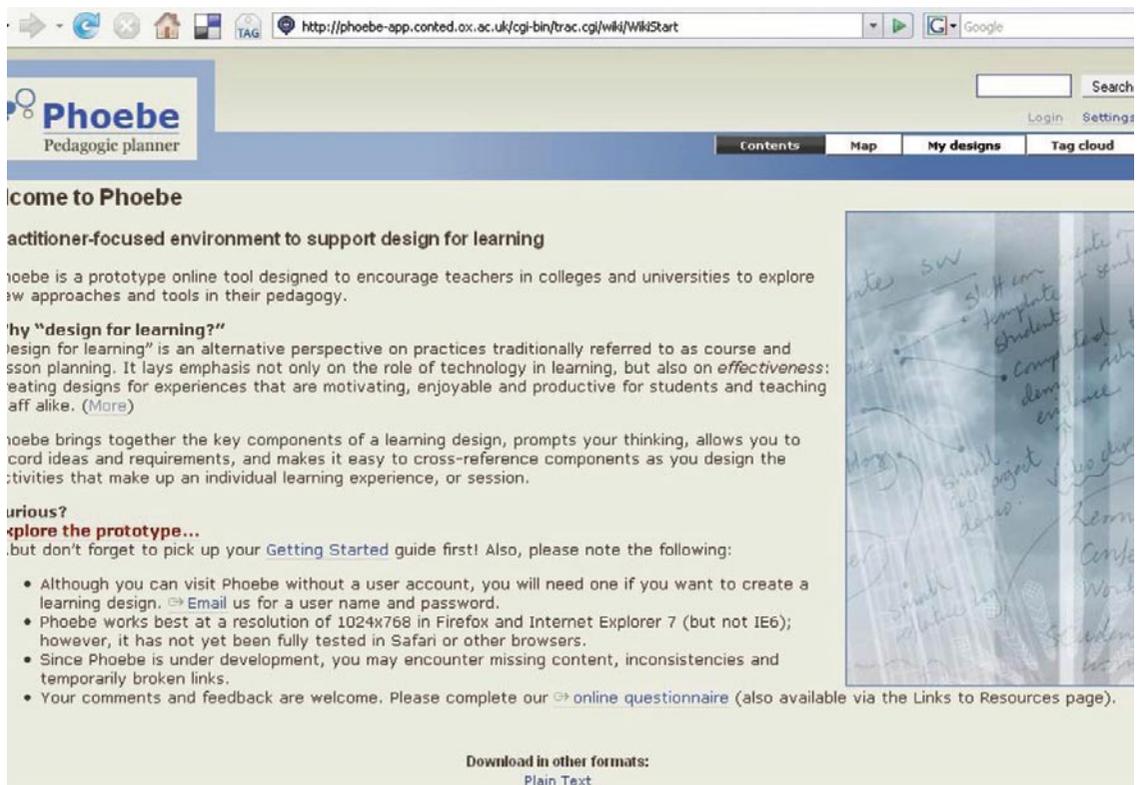

Figure 1: Phoebe Prototype Homepage (Manton, M., & Masterman, L., 2007)

Key themes of the Phoebe project are:
- To encourage lecturers to think about their practice in a structured way;
- Exploring the community dimension of using learning design, with recommendations for the sustainability of learning designs as a community artefact;
- Exploring whether lecturers can relate to the concept of an abstract learning design, and/or the extent to which the design may require contextualisation and specific content to be meaningful (Manton, M., & Masterman, 2007).

Phoebe is based on wiki technology. When a learning design is created in Phoebe, the user is creating new wiki pages. Learning Designs are produced when the lecturer writes notes in the Notepad sheet that appears on the page for each component of the design (see Figure 2). Notes are not required to be made on every page, merely the ones that are relevant to the particular design. Additionally, the Phoebe page for each activity type includes a checklist of things to remember, which can be obtained from a text file and pasted into the Notepad.
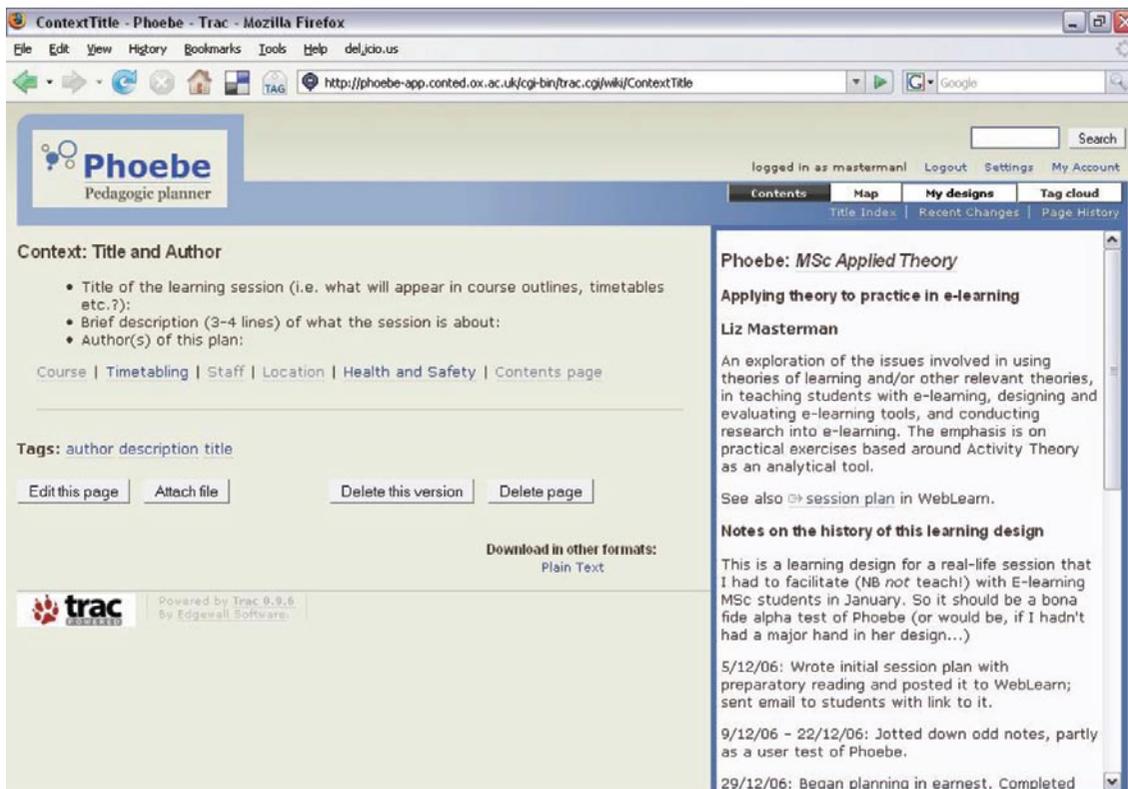

Figure 2: Phoebe page with the Notepad on the right (Manton, M., & Masterman, L., 2007)

The sequences of activities have been split into 5 components:
- Preparatory
- Main sequence (which may consist of more than one activity)
- Assessment
- Follow-up
- Additional/alternative

With its emphasis on free prose and attention to detail, the evaluations by lecturers have been mixed to date (Falconer et al, 2007).

2. LearningMapR

The LearningMapR proposes to support lecturers in mapping out their course by identifying instructional challenges, by assessing appropriate uses of class time and independent student learning time, and then provide guidance toward appropriate instructional strategies. This guidance might include pointers to effective learning activities to engage students, as well as suggested activity templates and exemplars from which to choose (Buzza, 2005).
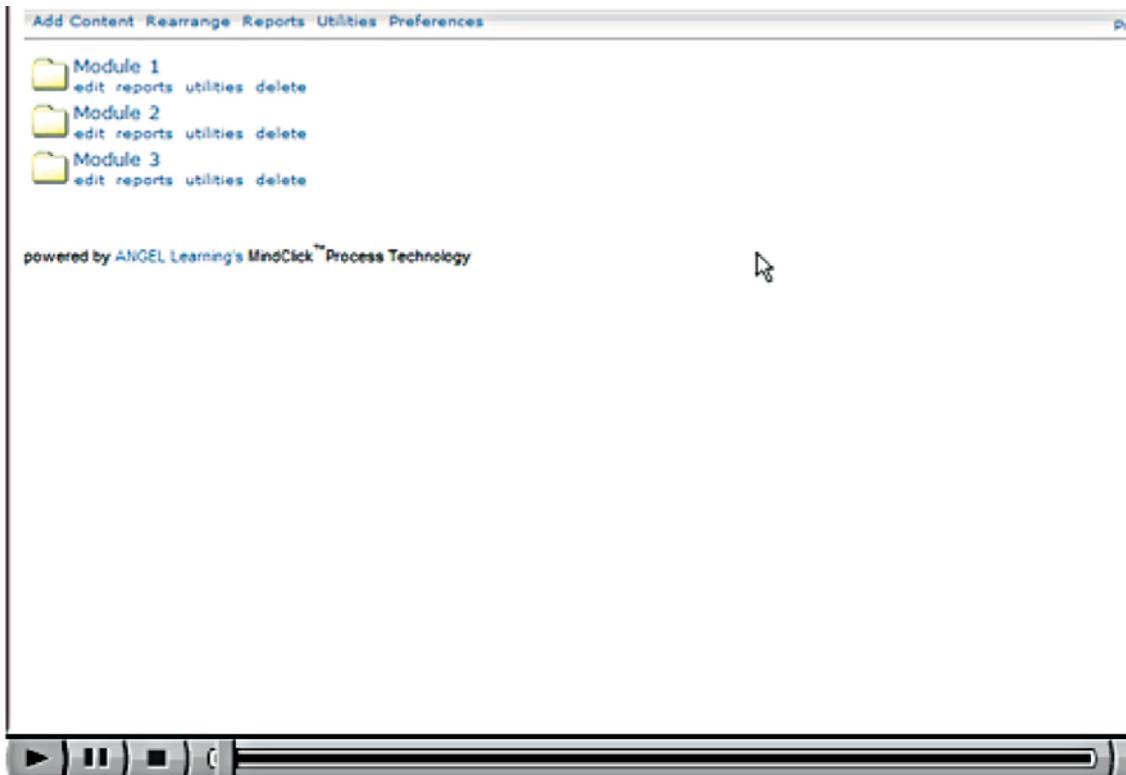

Figure 3: LearningMapR course screen (Buzza, 2005a)

The key features of the LearningMapR:
- Does not require lecturers to become experts in instructional design;
- Provides a framework for lecturers to map out their course;
- Embeds lecturer-friendly representations of pedagogical models;
- Identifies different ways to use teaching time;
- Maintains the textbook as an important resource in support of learning tasks;
- Provides recommendations, exemplars and templates for learning tasks;
- Is IMS-LD compliant and result in UOLs that are IMS-LD compliant (Buzza, 2005).

Lecturers are able to map out sets of activities for a single topic, a module, or an entire course of study with instructional strategies, activities and content structures that address what they want the students to know and do for a given topic, and that are appropriate for addressing particular instructional challenges (see Figure 4).
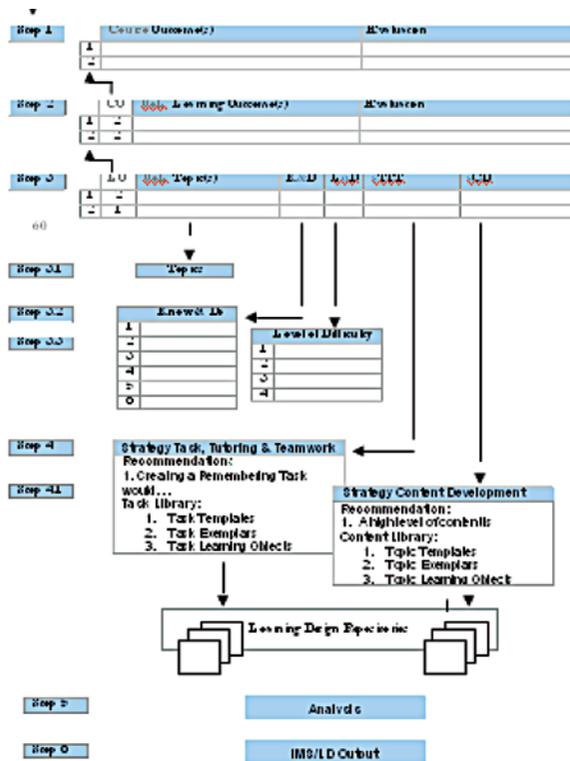

Figure 4: LearningMapR overview (Buzza, 2005a)

Some lecturers will recognize the value of this process in refining their teaching strategies; others will - at least initially - regard the process as a necessary overhead in order to easily locate relevant resources to incorporate in their learning designs. This implies that the LearningMapR must be planned around two uses - as an index into reusable learning resources and as an index into learning designs and information about them.

There are two core components to the LearningMapR. The first will help lecturers define what they want their students to know and do as they cover a topic within an activity. To provide clear guidance in this definition process, the revised version of Bloom's taxonomy (Anderson & Krathwohl, 2001) has been chosen as the theoretical foundation for the LearningMapR.

The second component of the LearningMapR will help lecturers identify the instructional challenges for a given topic and their occurrence patterns in terms of the proportion of students involved. Lecturers will be guided to content development strategies and student learning tasks aimed at addressing specific instructional challenge variables, or factors.

The LearningMapR will help the lecturer decide what needs to be accomplished in class time and what needs to be undertaken in student time. It will provide task, tutoring and teamwork templates and exemplars based on what the lecturer wants the student to know and do, while taking into consideration the instructional challenges that occur with the content. The storyboards that are created through the LearningMapR process will be exportable and printable.

By addressing the challenges in the course design process starting from the lecturer's point of view and using language that lecturers typically use in describing teaching and learning, the LearningMapR adds value. It does so through the following approaches:
- Displaying a map of the pedagogical components of a course of study;
- Identifying previously successful pedagogical strategies involving learning tasks and content resources to address specific instructional challenges;
- Scaffolding the process of instructors re-thinking the ways in which they use class time;
- Using the textbook as a major resource in support of the learning tasks.

3. Compendium

The UK's Open University is currently undertaking a Learning Design project, called Compendium, that provides an easy to use visual tool to help represent different learning designs. It is designed:
- to capture and represent practice through user consultation and case studies; and
- to support the course design process through the development of an online tool and associated workshops. This will be achieved through the creation of a learning design tool which both offers a repository of practice and helps scaffold the design process (Conole & Weller, 2007).

The existing tools for aiding the design process tend to take either an open, or a directed approach. For example, the London Pedagogic Planner offers a structured (directed) approach, which follows Laurillard's (2002) conversational framework. In contrast, the Phoebe planner offers a more open model, providing a range of advice. The intention for Compendium is to provide both routes in to the design process. Therefore the main focus of development is twofold: to develop a guided approach and to instantiate the knowledge base to allow more flexible advice.

In order to meet the first of these a series of learning design templates have been created, focusing on a core set of different approaches to the design process, including step-by-step guidance and learning outcome focused design. The next stage is to make these more proactive and 'wizard'-like to guide the user.

The second area of development is to draw together a comprehensive set of resources related to the learning design process. These have been collated in Compendium and exported to create a web-based version. The resources include other learning design tools, brief descriptions of tools, Open University case studies, pedagogic models and activities grouped by discipline. Work is currently underway to further instantiate each of these areas.
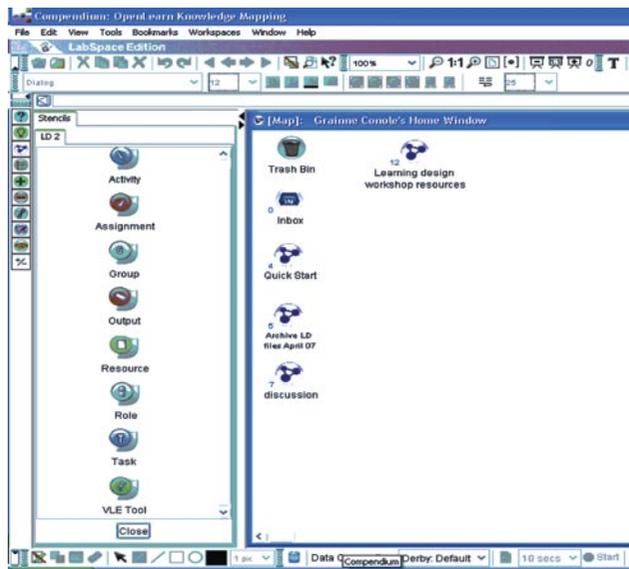

Figure 5: The learning design stencil set of icons (Conole & Weller, 2007)

Compendium supports the creation of a range of visual mapping techniques, including mind maps, concept maps, web maps and argumentation maps (Okada and Buckingham Shum, forthcoming), which the designers felt offered the potential for a range of flexible approaches to the design process.

Compendium comes with a predefined set of icons (question, answer, map, list, pros, cons, reference, notes, decision, and argumentation). The creation of a map is simple: users drag icons across and can start to build up relationships between these through connecting arrows. Other types of electronic files can also be easily incorporated into the map such as diagrams, Word files or PowerPoint presentations as well as links to external websites. Icons can also be meta-tagged using either a pre-defined set of key words or through user generated terms. Maps can be exported in a variety of ways from simple diagrammatic jpeg files through to inter-linked websites.

Figure 5 shows the generic set of icons on the left-hand side, along with an example of a customized learning design stencil on the right.

Feedback on using the tool was as follows:
- The tool was easy to use and groups quickly created learning activities;
- Using the tool in a group helped users reach consensus on an activity;
- The process helped bring to the surface hitherto hidden complexity in some existing tasks;
- The icon set was adequate and helped users to treat Compendium as a learning design tool;
- The process facilitated an appreciation of the different roles required, for example associate lecturer and helpdesk support;
- The process encouraged a separation of content from activity design (Conole & Weller, 2007).

4. QUT's Learning Design Templates

The Learning Design Templates project at Queensland University of Technology provides lecturers with templates that embed specific pedagogical principles into learning design templates. These templates consist of online tools, examples and suggestions that are carefully structured around generic learning activities. The templates can be customised to suit a range of subject disciplines and are situated within an educational framework.

The aims of the project were to:
- group individual resources into templates and sequences which situate the tools within a sound pedagogical framework;
- promote lecturer understanding of the pedagogical principles underpinning the chosen learning designs;
- provide lecturers with a selection of learning sequences and templates which can be modified according to their teaching aims and the context;
- provide options for blended learning, by ensuring lecturers have options for carrying out some designs face-to-face and others online (Heathcote, 2006).

Figure 6: An example of a template (Dawson & Winslett, 2006)

The development of the learning designs templates are intended, through their structure and their linkages with other resources, to allow lecturers to include pedagogically sound learning designs into their online learning environments. They can browse the full list of templates, and select one that suits their teaching requirements. Once the template is copied to their site, the lecturer can customise the template to suit their unit. In order to ensure staff had an overview of the various possible uses of the templates, these were classified according to scope, learning focus, graduate attributes, groupwork vs individual work and class size (see Figure 6).

Figure 7: Template overview (Dawson & Winslett, 2006)

The team decided to further the concept of learning design templates first developed by an Australian University Teaching Committee (AUTC) Learning Design project. The templates needed to be context independent, yet provide a pedagogical framework for academics to develop their online learning materials. Each template consists of its description and associated resources (see figure 7), a sequenced generic learning activity, accompanied by examples and suggestions for how staff can tailor and facilitate students' use of the template. Eventually, as the examples build up, practical examples, case studies and staff comments can be shown alongside the templates themselves for academic lecturers to see the template in context.

5. The Proposed Project - LAMS Activity Planner

Macquarie e-learning Centre of Excellence (MELCOE) has just begun work on its own pedagogical planner. The concept is to provide a tool that does more than guide users through the learning design process: it will also produce a usable online lesson. The LAMS Activity Planner, as it is currently known, has been designed to support the sharing of effective pedagogy and content. It encourages the reuse of existing learning designs, resources and learning objects without requiring lecturers to become experts in learning design or theory.

The Planner provides a scaffold for lecturers to map out their course while producing a workable learning design. It encourages them to view content as a resource to support learning activities and not the main focus for learning.
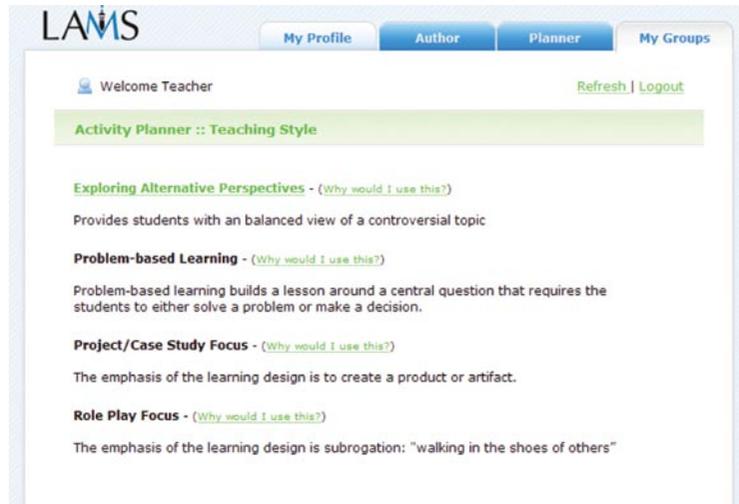
Figure 8: Step 1 of the LAMS Activity Planner Model

Lecturers produce a fully authored Learning Activity Management System (LAMS) sequence as they are guided through a series of pedagogical choices (see Figure 9).
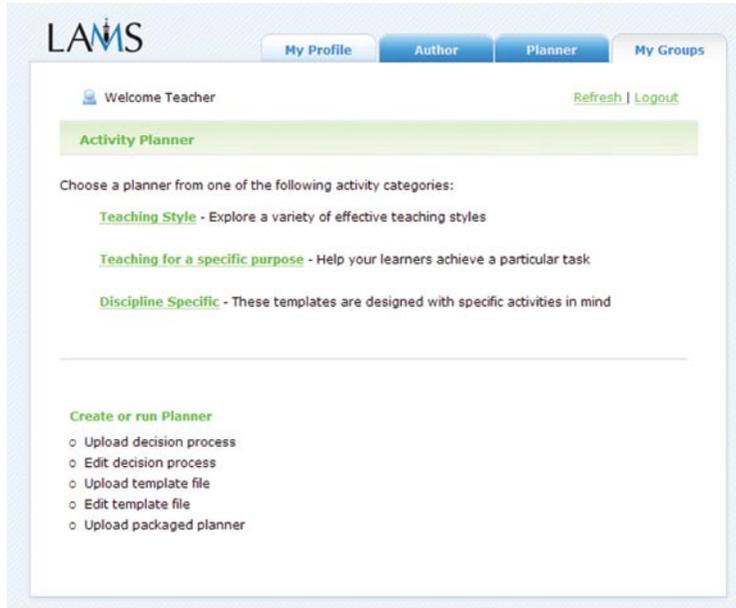
Figure 9: Step 2 of the LAMS Activity Planner Model

At each stage cascading Help screens provide material to support the lecturers if they do not feel confident to make an informed choice (see Figure 10).
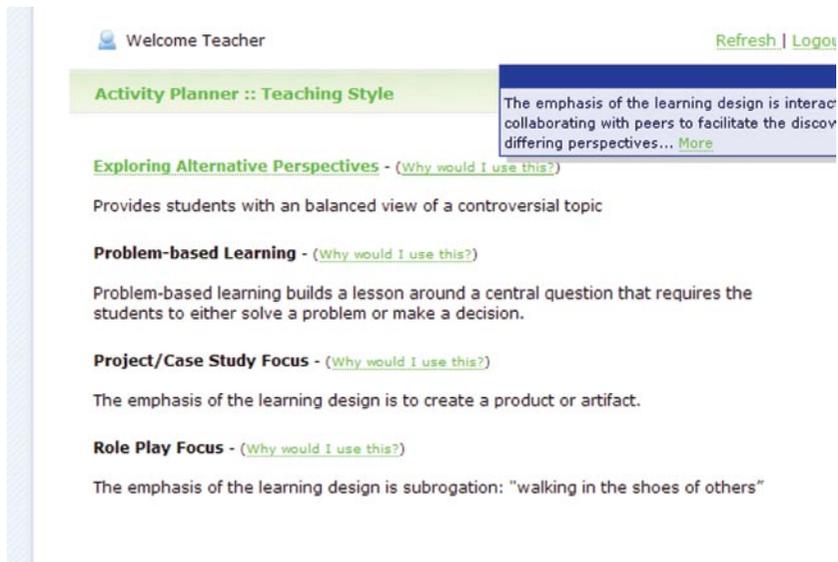
Figure 10: Step 3 of the LAMS Activity Planner Model

The LAMS Activity Planner helps lecturers plan all aspects of their learning design and the Planner produces a fully operational online activity - not just a paper-based outline that still has to be translated into a workable lesson. Additionally, as a standardised template of activities, the product of the Activity Planner can be easily shared or modified for re-use.

Future Directions

Are a number of aspects of these five planners complementary? Can all these projects produce one all-purpose pedagogical planner? Diana Laurillard (2007) suggested that perhaps this may be the case (see Figure 11).
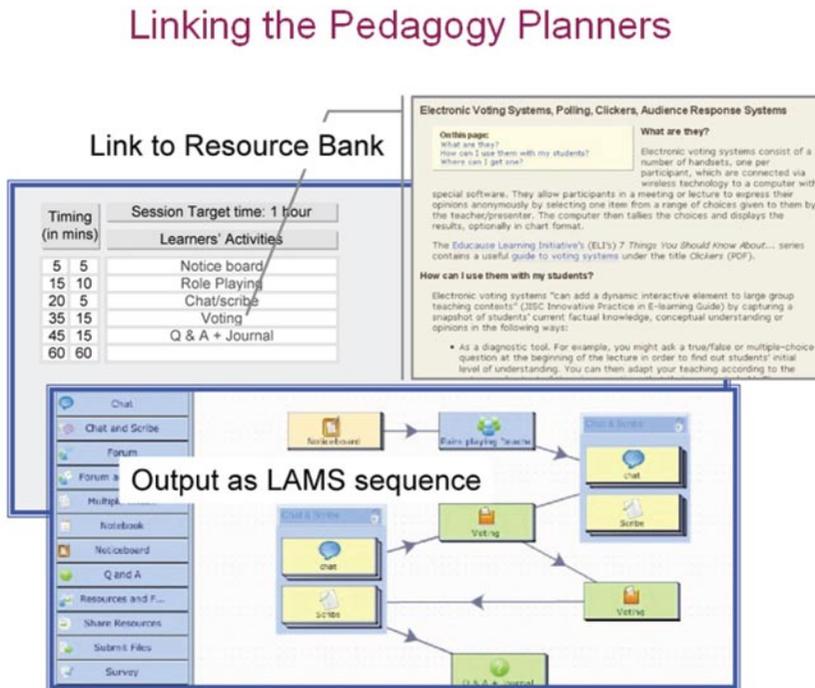
Figure 11: Laurillard's (2007) proposed merging of pedagogical planner projects

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Institutional Embedding Of E-learning: Findings From The Adelie Pathfinder Project

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How effective is intervention that responds to departmental, discipline or subject-specific requirements?

The ADELIE project[1] is a one-year HEA-funded Pathfinder project aimed at embedding good e-learning practice across the University of Leicester, with a focus on re-designing course delivery to meet the e-learning needs of specific departments. In doing so, it develops skills and builds capacity among Leicester academic staff.

By bringing together pedagogy, subject knowledge and e-learning design, the ADELIE project researches change that occurs as a result of the normalisation of sustainable e-learning practice at three different levels: institutional, teaching practice and learner experiences.

This paper presents some of the findings of this project and assesses its impact across the institution. It focuses on the types of online learning activities or e-tivities (Salmon, 2002) that subject teams have designed and embedded in their courses.

Background

ADELIE started in October 2006. Its aims are:
- to enhance the quality of students' learning through effective use of e-learning across disciplines;
- to foster change, development and capacity building and achieve better resource and cost-effective development of student learning activities than typically found in many campus-based universities;
- to work with the prevailing culture, structure and norms in the University of Leicester while raising its long-term capacity for productive student e-learning;

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1   An element of the media zoo

- to provide timed interventions for a specific purpose within the university, uniting the efforts of people who would not normally work together;
- to provide the teachers with key pedagogical understanding relevant to e-learning ;
- to embed e-learning by supporting the design of new courses or those being developed with e-learning elements;
- to provide transferable models for, and disseminate them widely to, the HE e-learning community;
- to conduct research by interviewing participants at sequenced stages in the intervention, observe course teams involvement in the Carpe Diem workshops and their subsequent implementation of e-learning.

ADELIE attracts small course teams who want to re-design for e-learning at Leicester. So far, 15 course teams from 13 disciplines have taken part. This paper presents the findings from that experience. Most lecturers at Leicester are used to working in campus-based face-to-face situations. E-learning can, of course, be introduced into traditional teaching, whether on campus or at a distance, through large-scale centralisation and provision of professional services.

A more incremental, but more challenging, model involves gradually engaging all members of staff, through the choice of easy-to-use technologies and investment in course-team and departmental learning. This model has the advantages of keeping ownership of content and choice of pedagogy within the academic departments and recognises that a wide variety of mechanisms must underpin development. It does, however, enable changes to be contextualised and embedded in the disciplines. This model also fosters the sharing of good practice and materials among academics, and sets in train the possibility of future team approaches to course development.

The Carpe Diem[2] Workshop: A Framework For Intervention

The intervention framework is based on the following tenets:
- Pedagogy, subject knowledge and technology all play an equal part in the process of designing for e-learning;
- The most salient intervention is a two-day workshop called Carpe Diem , in which course tutors learn through active engagement in re-designing their courses for e-learning;
- The workshops are designed for departmental teams to develop courses that they will teach themselves, rather than the more typical pattern in staff development programmes of individual tutors acquiring generalised e-learning skills.

The intervention is based on building partnerships with department teams before and after the two-day Carpe Diem workshop, though the most prominent point of intervention is the workshop itself (see Figure 1). Departments approach the Adelie team with plans for introducing e-learning into their teaching and this is followed by meetings to discuss their plans. The departments' attitudes to pedagogy in general, and their attitudes to e-learning in particular, are revealed at these meetings. Adelie is able to pre-empt some misguided ideas about e-learning at this early

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2   Carpe Diem is Latin for Seize the Day and is the name chosen for these change-generating workshops by Professor Gilly Salmon.

stage and hence starts to shape the design for e-learning before the subject team attends the workshop. The individualistic culture around university teaching, plus allocation of resources for teaching in departments, makes commitment of a subject team to a two-day workshop a hurdle to overcome but also a measure of their 'buy-in' and commitment to the process.

In the Carpe Diem workshop, staff collectively determine pedagogic and subject knowledge goals for their course. Based on these goals, they exploit the technological resources provided by the university for e-learning design and delivery. The process is iterative and reflective, and at all stages the Adelie team provides input, insight, feedback and advice, and hence increases the course team's understanding of pedagogy and increases their technological capacity. The central catalyst for learning is designing e-tivities (Salmon, 2002). These are frameworks for enhancing active and participative online learning and are integrated into the overall course design. All teams leave the workshop with at least two online activities, plus a course framework which supports this form of learning.

Developing a framework for implementation
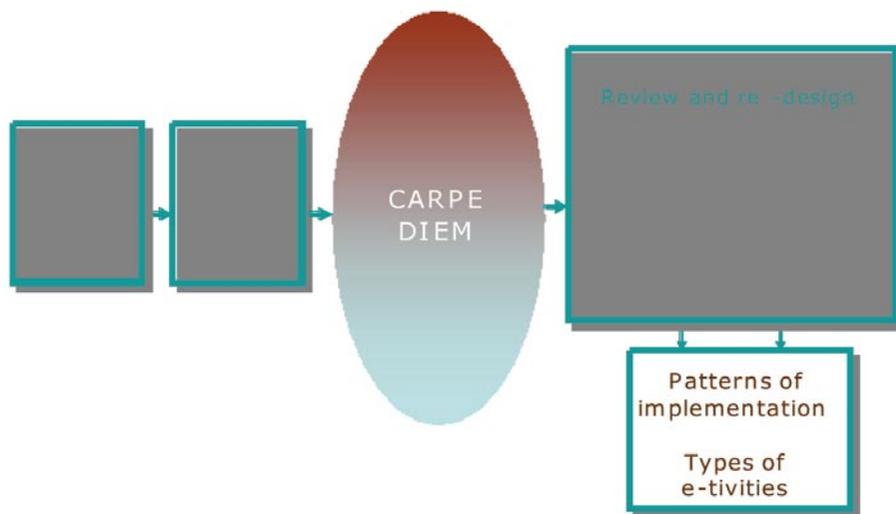
Figure 1. Framework for implementation of the Adelie e-learning initiative

The course frameworks and types of e-tivities that participants develop in the workshop are indicative of the participants' developing understanding of pedagogy and e-learning (Bain 2000; Trigwell et al. 1994; Trigwell and Prosser 1996). The e-tivities and the overall course designs produced by participants in the Adelie project are examined in the following sections and the development in the participants' capacity to design for e-learning is discussed.

E-tivities

Designing e-tivities is a key component of ADELIE and a catalyst for change.

During Carpe Diem sessions, teams produced a large number of diverse e-tivities. The typology shown in Table 1 captures their key features. The e-tivities that course teams produced reveal:

- the pedagogical understanding that participants brought to the Carpe Diem workshops;
- how that understanding developed during the workshop;
- participants' attitudes to and beliefs about learning;
- tutor and learner needs within the module or programme in which these e-tivities will be used;
- the team's understanding of subject-specific epistemology and teaching methodology: "this subject should be taught in this way".

The data suggests five types of e-tivities: essay in hiding or "essay-tivities"; self-referent; single answer; fuzzy rhetoric and fit for purpose (see Table 1).

The first three types draw on a notion of teaching based on delivery of information. Essay-tivities tend to involve reading, note-taking and extensive writing, with the tutor as their main audience. In self-referent e-tivities, the learner is asked to reflect and respond informally to course material, but is not required to make this available to the tutor or other students in the group, and so adds little value to the group. As is the case with essay-tivities, self-referent e-tivities do not exploit the affordances of computer technology in any relevant way. Both use a relatively new technology to replicate traditional processes.

Table 1. The five types of e-tivities

E-tivity type	Features	Evidence
Essay-tivities	New technology, old method. Long task.	A typical beginning: "read the chapter and make notes and write…"
Self-referent	The respondent is the only intended audience. Little relevance to others. The e-tivity does not exploit the affordances of the technology.	"Read the text and reflect on the xyz debate".
Single answer	The output is a right answer, with no extension, elaboration or opportunity for sharing of ideas.	An online multiple-choice, matching exercise or crossword.
Fuzzy rhetoric	The e-tivity may aim at collaboration but its design leads to confusion.	"Critically appraise the following article then share..".
Fit for purpose	Each feature or online tool is used effectively for what it does best, maximising engagement and focus.	A range of e-tivities designed by some of the course teams.

Single answer e-tivities are concerned with testing the absorption of information but stop short of providing adequate opportunities to justify or elaborate on results. The fourth type, fuzzy rhetoric e-tivities, often fail because they do not scaffold or clarify the tasks the students are asked to do.

For example, directions to "reflect" or "critically appraise" are used without explaining to the learner what is meant by those terms or what is expected from the task. This type shares some features with essay-tivities.

Fit-for-purpose e-tivities, whether in a blended or distance learning course, identify core or threshold concepts (Meyer and Land, 2006) and provide a scaffold for the appropriation of these. They are varied and build interactivity, collaboration and opportunities for independent learning into their design.

As a result of interventions, course teams make their e-tivities more meaningful and effective and develop them further. Teams very often turn them into a different type. Table 2 is an example of a fit-for-purpose e-tivity developed by a team attending a Carpe Diem session.

Table 2. A sample fit-for-purpose e-tivity

	E-tivity 3a: Is Performance Appraisal Working? *This e-tivity is not the assignment itself. It helps you plan the content of the report you are required to submit for assessment.* You have been given privileged access to one document and two audio recordings. All parties have given their consent for you to see and use this information, which will help you understand some of the issues that you could include in your report. 1. Document: Job, performance and statistics information.doc 2. Interviewer Training Audio File (55 seconds). 3. Audio File of a "typical" performance appraisal for In-Branch Customer Services Staff (2 minutes and 34 seconds).
Purpose	To identify and elaborate on three key issues on performance appraisal.
Task	Identify 3 major issues that arise when you have listened to and read these resources. In no more than 150 words explain why you have chosen these 3 issues. Post your message to the discussion group by Friday 2nd March 2007.
Respond	By the Friday 9th March 2007 return to the forum and elaborate on one or more of your fellow participants' posts, responding to their arguments.

Design types

The types of e-tivities designed, the strategies chosen for assessment and the combination of e-tivities with other teaching techniques form the elements of the overall course design produced by participants following the Carpe Diems sessions. These course designs indicate the extent of the capacity building and the embedding of e-learning which is resulting from the project.

The course designs fall into two categories: interactive and socio-constructive. Both of these indicate the pedagogical understanding relevant to e-learning that course teams developed during the Carpe Diem workshops.

A. Interactive Design

This type of design produces various kinds of interaction between individual students and the course team, even between individual student and individual tutor. Interactive design uses e-tivity types essay in hiding, self-referent, and the right answer. It is differentiated from the socio-constructivist design because it does not promote co-construction of knowledge through designing purposeful student-to-student collaboration. In this sense, the interactive designs produced in the Carpe Diem sessions are closer to teaching-centred orientations rather than learning centred orientations (Samuelowicz & Bains, 2001).

In their initial contacts with Adelie, almost all subject teams teaching distance learning courses state that they want to build more interaction into their courses. On-campus course teams say they want to extend interaction beyond the face-to-face sessions. Teams include this goal in the Mission Statement development session in the workshops. They use expressions such as "give the course a human face" and "create opportunities for interaction". Some teams even refer to notions of a learning community (Wenger et al., 2002) in their goals, for example "develop a sense of academic group community".

The designs typically draw on a range of technologies, including Breeze presentations used to present introductions to the course or to direct students through the course. Teams plan to use podcasts and include sound tapes and videos in their e-tivities. They use the VLE as a portal to a varied range of resources and spend time making the site look interesting and pleasing to the eye. They value the flexibility provided by the technology to update resources and assignments.

Some of the designs in this category do use the VLE (Blackboard) conference facilities to set up an unmoderated voluntary conference. However, these do not lead to collaborative learning or development of a learning community in this category of design because e-tivities are not designed so that students have an authentic purpose for communicating in these conferences. It would, therefore, be difficult to see these discussions as contributing much to knowledge construction. It would also be difficult to see them contributing to developing a community of learners, as the lack of structure means that few students contribute. The interactive design makes it unlikely that formative assessment in the form of continuous feedback on ideas and concept formation can occur before students complete an assessed assignment. Departments developing the interactive design eschew student-to-student collaboration for pedagogic reasons, regarding time spent

moderating online discussions as taking time away from more valued tutor-to-individual-student time. Other teams believe that collaborative work would not be valued by their students.

B. Socio-Constructive Design

The key distinction between this design type and the interactive design is that it makes use of the discussion boards to engender student-to-student communication. Using well-designed e-tivities of the fit-for-purpose type (see table 2), they design collaborative activities that engage students in purposeful activities. These designs are therefore closer to a learner-centred orientation (Samuelowicz & Bains, 2001) and have design features which make possible socio-constructivist learning (Salmon, 2002; Duffy & Cunningham,1996). The designs are interactive-plus, as they have the features of the interactive design style with the additional element of collaboration between students online. Course teams found that their goals to develop learning communities and enable collaboration between students were met by this design type: a tutor developing this design said:

> "I think there are probably two or three ways I'd quite like it to work. One is obviously interaction between the students themselves and somehow where they can build-up an online community of students."

Course teams use this design to instigate formative assessment, intervening when appropriate, as moderators of discussions, to provide feedback. Commenting on this teaching method, a tutor said that, as he followed the discussions, "the learning becomes visible" and he is able to target his interventions to support and scaffold students as they learn. Thus, this design enables formative assessment as students progress through the course.

The choice of technology to achieve these aims varies, as does the intensity and extent of the co-construction of knowledge. Two on-campus courses, in law and modern languages, use wikis to generate student contact for the sharing of ideas and information outside of face-to-face sessions. The designs require students to publish and respond using the class wikis, prior to seminar discussions. The aims of both departments are to increase the amount of time students have available to discuss aspects of the course. Other courses developed more extensive designs for student online collaboration, designing a sequence of e-tivities using discussion boards and aligning the e-tivities with assessment plans. Commenting on this type of design, one tutor said that "I see e-tivities as stepping stones to e-portfolio or case studies", again making the link between e-tivities and formative assessment.

The teams working with Adelie had virtually no e-learning in their distance learning or on-campus courses prior to the Adelie intervention. The ensuing designs, both interactive and socio-constructivist, engage students in pedagogically worthwhile activities, drawing on Web 2.0 and conventional VLE technology. This shows development in the participants' understanding of pedagogy and enhancement in their capacity to use e-learning techniques.

Steps To Embedding

Figure 2. Steps towards embedding following Carpe Diem shows typical patterns after the workshops. Only one course team has taken no action, with the majority either still planning full distance learning courses, drawing on their Carpe Diem-developed plans, or implementing those plans. The few who have both implemented and evaluated are on-campus courses and they have reported impacts at a departmental level. These include planning to incorporate the online elements into course assessment, changes in the use of generic discussion boards, and the introduction of online collaboration as a core teaching method in first year courses with the intention of embedding this way of learning as a legitimate practice in their discipline.
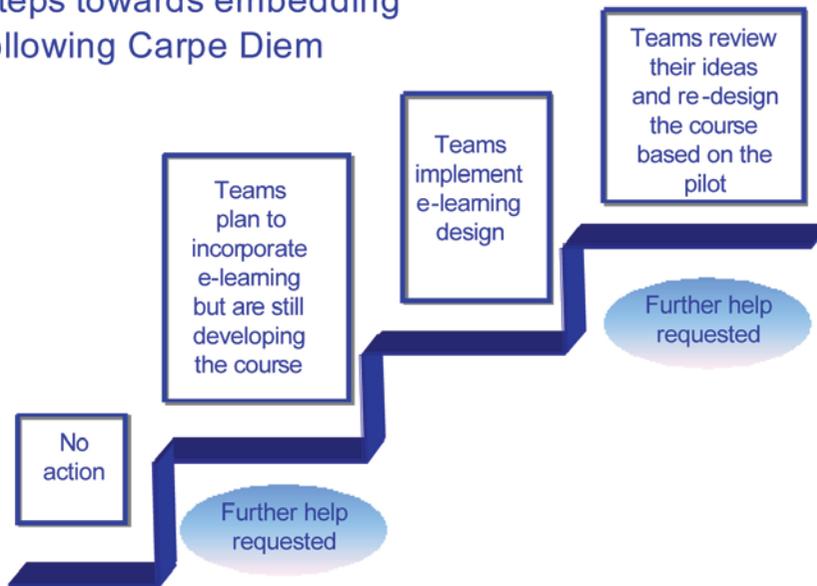
Figure 2. Steps towards embedding following Carpe Diem

Conclusion

ADELIE has made a significant contribution to building capacity and embedding change at Leicester in terms of:

- Technology-enhanced learning and formative assessment;
- Understanding of pedagogy. As is often the case in change processes involving technology-enhanced learning, participants' understanding of pedagogy increases beyond what the technology offers. Teachers conceptualise, develop and apply new teaching methods in a range of settings on the basis of ideas that are presented in the context of e-learning;

- Departmental change. Departments are re-thinking the structure and teaching methods for entire programmes as a result of Adelie interventions. These changes include decisions to institutionalise e-learning at the onset of students' university experience, to build assessment practices around e-learning, to continue team development of courses, and to plan for more e-learning staff development.

Course teams have started explicitly to align learning objectives, task design, assessment and feedback provision through focused e-moderation.

Course teams have also started to use e-tivities whose output builds towards an assessed task. These e-tivities are designed to align ideas and content with the requirements of a subsequent assessed assignment. Assessment for learning (Black et al., 2004) has become a key concept in designing for learning.

ADELIE is a one-year project. However, some of the subject teams have fully implemented and evaluated the use of e-tivities as an integral component of their online courses. At the time of writing this article, the limited evidence available shows a very positive impact on the quality of assessed work, on learner attitudes and on the learner experience as a whole.

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Interactive Literature: Encouraging A Personal Response From Students To Course Texts.

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'Information plus technology equals power'[1]

The 21st century has witnessed an alarming growth in technology coinciding with the gathering pace of the Shakespeare industry. The number of critical studies has expanded hugely and Shakespeare's work has been interpreted by scholars worldwide from Marxist, anthropologist, feminist and many other perspectives.

If Shakespeare wrote for the 21st century and teaching texts is still to resonate with students then one must consider if and how modern technology can aid this. The rise in classroom technologies has enabled the development of e-learning tools which we hope can encourage students to develop a personal response to literary texts.

Learning styles

Learning styles and teaching styles are affected by cognitive and humanist behaviour. E-learning facilitates students with a choice over their learning environment. The websites provide a range of different settings, such as forums, individual and group study rooms, interactive games, quizzes, and visual aids. They thus facilitate students of all learning styles, whether audio, kinesthetic or visual learners.

Benefits

Studying literature involves a variety of skills, knowledge and understanding. With limited time in the classroom and a pressure to complete the syllabus, some of these skills may not be fully developed. E-learning can compensate for this by giving students opportunities for discussions and activities outside the classroom. For example, regarding *Measure for Measure*, they could discuss Angelo's character by examining a variety of representations of him and choose which

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1   Hugh Gallagher, "The Accidental Zillionaire," *Wired*, August 1994

they thought best described him. Students could pick different images to show different parts of Angelo's personality.

Whilst the traditional classroom provides immediate face-to-face interaction between the teacher, the individual student and the whole class, e-learning provides a more independent platform for learning. Being digitally connected can also encourage students towards more abstract thinking.

E-learning case study: Measure for Measure

When studying a particular play, poem or novel students can navigate the web to find similar texts of that particular genre. Reading through all of Shakespeare's plays will introduce students to an unprecedented variety of situations and behaviour, but because of the volume of time and discipline required, and the need to improve understanding of themes and characterisation, this cannot be expected.

However, a modified e-learning library could enable students studying *Measure for Measure*, for example, to examine a range of similar plays, such as *Troilus and Cressida* and *All's Well That Ends Well*. Additionally, it could help to develop an awareness of what constitutes a Shakespearean play - whether tragedy or comedy or, as in this case, a 'problem play' - and how to identify one. Students could examine a range of 'problem' texts where situations are potentially tragic and the darker side of human behaviour is revealed, to see how these plays follow a certain pattern.

In studying *Measure for Measure*, students came face to face with a play that gives prominence to humanity's darker side, where social authority feels so threatened by people's foolish and irresponsible actions that it decides to assert itself and stamp out anti-social behaviour. In analysing this 'dark' play students logged on and concentrated on modern day politicians with dark sides. They analysed the darker elements in human nature such as deceit, lust, greed, treachery and sexual immorality by appropriating it to a modern context and relating it to present day politicians like Bill Clinton and Monica Lewinsky, John Major and Edwina Currie. E-learning can facilitate this appropriation with historic and current affairs via web links and discussions.

Measure for Measure deals with challenging issues such as love, sex and power. Students can find this difficult to analyse and e-learning can provide activities that will aid such analysis. Students can simultaneously examine texts that deal with a well-ordered and healthy society and compare it to all the unpleasant elements and complications in *Measure for Measure*. Here, students begin to make sense of baser instincts in people and an excessive authoritarianism in the state that together represent a kind of sickness that poisons society.

Whilst *Measure for Measure* provides ample examples of what is unattractive and disturbing in life, students will also have to search online for the positive version, associated with love, which is set against this. This forces students to engage with multiple texts, allowing them to see what is happening in the text as well as the significance of this. Students can develop a sense of particular issues which will prepare them for online discussions, where they can expand these ideas. By developing ideas in general, students can interpret the action, and comment on well-ordered societies, social roles and Shakespeare's social hierarchy.

Measure for Measure is classified as a 'Problem play' and within the text there are several challenging problems whose solutions can be explored. Students can navigate the web for political relevance, and issues around various solutions to problems of prostitution and sexual corruption. As students read and discuss the corruptive nature of power and sex in *Measure for Measure,* they will explore wider issues of human nature, forgiveness and authority. There are also religious and social issues to be explored. Online libraries can assist by providing additional information. Students can select examples from the text which best support their argument and post them online to fellow students for further discussion and ideas. They can also use other texts (for example, Biblical references) to further support their argument.

In-depth text analysis & appropriation

The study of English Literature demands a sound knowledge and understanding of historical, cultural and ethical viewpoints. The combination of wider global travel and mass migration means that Britain is no longer a culturally homogenous community but a leading multi-cultural society. Students studying Shakespeare's *Othello* can now research the culture and literature of minorities of the past and present - contemporary authors such as Zadie Smith, Hanif Kareshi, Margaret Attwood and Anita Desai whose literary texts can be sought on the internet. Jane Smiley's *A Thousand Acres*, an appropriation of *King Lear,* and Marina Warner's *Indigo*, an appropriation of *The Tempest,* can also be read alongside Shakespeare's original texts.

'Modernising' Shakespeare and understanding past and present socio-cultural contexts requires an increased inter-communal understanding, a breaking down of cultural boundaries and ideologies, and a deeper understanding of students' own identity. Global communications, especially web technologies, can aid these processes and allow students to explore and discuss across cultures they may otherwise not be exposed to.

Skills developed

Integrating Shakespeare's comedies, tragedies, history and problem plays with the internet have made it an interdisciplinary unit that challenges students to use a wide range of varied skills such as critical thinking, reading, writing, problem solving, synthesis and - to help the weaker students - basic skills.

Basic skills incorporate reading, writing, and ICT. Students studying *Richard III,* for instance, can research historical events such as Elizabethan England, The War of the Roses, Shakespeare, and The Globe Theatre. Later any notes and summaries can be used to write up essays in digital format. Interactive resources can be placed online to allow students to play learning games which will help them with Maths and History. Students understand and interact with historical timelines.

Synthesis is an essential skill when carrying out research projects. Students are expected to summarise vast amounts of literature and in some cases create artistic expressions. Interactive literature provides them with an opportunity to digitally scan, draw, photograph and share work with others. In the final analysis, it gives them a personal sense of ownership.

Critical thinking is a skill students will need to develop if they plan to continue their literary studies beyond college. E-learning provides a suitable environment in which these skills can be nurtured. Online discussions, such as debating characters, actions, situations, literary devices or communities, encourage students to develop, express and support their own point of view. They are then in a much better position to cope with critical discussions which they can relate to their own personal reading of the text. At the same time, by reading or listening to the views of others, they will be able to assess their own critical performance and think about other people's ideas. Later, students may find themselves thinking about the overall significance of the play, or even what is central or important in it, in a different way.

Interactive Literature

We created an online area enabling students to continue studies and communicate with peers and tutors outside of classroom contact hours. Moodle was chosen as the delivery platform for this, providing course participants 24/7 access to the site. The student group had not been previously exposed to the Virtual Learning Environment.

Designing an online learning area

The online area began as packs of paper handouts to be presented online, although in some cases these also existed in digital format. The initial option was to upload these files and make them available for download creating an online document repository. There were two main reservations with the implementation of this: accessibility and design.

Accessibility

Access to the VLE requires web browser software, which is freely available on any PC. In order to open many document types requires additional software which may or may not be freely available. We made a decision to create resources that did not have additional requirements beyond browser technology.[2] There was an added benefit of improved performance for users with slower internet connections. There were no special accessibility requirements, such as screen reading, although there were advantages to our approach for all users.[3] For development that meant converting documents from their current form, which provided an opportunity to re-evaluate their design.

Design

The project motivation for online design was not merely to make traditional resources available but to use e-learning to enhance experiences in ways where it was felt students could engage beyond the classroom. This encouraged investigation into a variety of tools to develop resources to cater for different learning needs and styles. We also set out to ensure online resources were adequately formatted and suitably optimised for web access. Within this approach we identified three models for online learning transactions: information transfer, interactivity and discussion and aimed to offer variations of each.

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[2]   This included a web browser (Internet Explorer 6 was standard on campus), JavaScript and Adobe Flash Player.
[3]   Moodle is compliant with XHTML Strict 1.0 and major accessibility standards, and we ensured our resources continued this where possible.

Developments
While we were using Moodle as our delivery platform we by no means confined ourselves to the Moodle toolset; we wanted to explore the best tools available. As there was no funding for this project, the only requirement beyond our above considerations was that they were available without cost.[4]

Web Pages
Web pages provided the main way of supplying information such as course notes and study guides. We looked at creating multi-page resources in order to break down topics into various sections, thus allowing users to navigate easily between sections and where appropriate links into the library system and online texts were used to encourage wider reading. The third-party Moodle book module and eXe were our chosen packages;[5] the book module allows editing within Moodle, while eXe was felt to offer a better appearance for resources that were unlikely to require frequent editing.

Glossaries/Databases[6]
A glossary or database allows a collection of resources to be grouped and listed in various ways. Whether they contain key terms or useful websites, when online they offer the facilities to be searched and categorised for easy access. Using these tools within Moodle also allows students to contribute their own entries to create an evolving resource.

Forums
Forums were one of the key activities we hoped to encourage, allowing students to discuss ideas and responses to texts with peers and tutors. We used the forum system in Moodle, which promotes a social constructivist approach.

Timelines
After investigating various timeline solutions we decided SIMILE to be superior, although it does require XML and JavaScript manipulation to implement.[7] An interactive timeline offers a clear visual representation of the chronology of events and comparisons between, for example, an author's life and historical influences. This is a great way of encouraging contextualisation, intertextualisation and appropriation.

Drag and drop
Working in collaboration with the Content Workshop team we developed a number of drag and drop exercises.[8] Being interactive students are required to participate, which can appeal to more visual and kinaesthetic learners. We designed these to complement other resources to provide information and activities for key areas.

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4   Resources are available to view, copy and/or download at http://vle.barkingcollege.ac.uk/cwstudio/course/view.php?id=57

5   eXe: http://exelearning.org/ and Book module: http://moodle.org/mod/data/view.php?d=13&rid=319

6   NB: A glossary in this sense can be considered a specific application of a database

7   http://simile.mit.edu/timeline/

8   http://www.contentworkshop.co.uk/

Quizzes
Multiple choice quizzes provide a quick and easy way to allow students to test their knowledge. In an online environment results and feedback are instantaneous so students can immediately see where they may need to improve. When designing these quizzes we were keen to ensure there was appropriate feedback for every answer so that students could learn from these as well.

The students
Having made our design choices we presented the course to the students; as they had no previous VLE experience we ran a short 20 minute induction on accessing and using the site. We also asked what they would like to see online. The predominant response was past exam papers, essay writing guides, and essay examples; essentially how to pass the examinations. We felt this communication with the students to be useful in designing for learning and added these to the site.

Use of the site
The project ran for approximately 3 months from the induction to the students finishing their exams. Out of a class of 27 students, 74% visited the site and viewed at least one resource or activity. While we hoped to make the online area a valuable part of the course, it was not compulsory to use it so I feel we generated a good response. Of the 3686 logs generated for the course, 52% were student activities and 43% were administrators setting up the site, which shows active use over a short period.[9] However, use was not evenly distributed with 55% of student logs generated by the 3 most active users, with the most active responsible for 32%. Logs were generated at various times of day from early morning before college opens to late on weekend nights, demonstrating the value to students of being able to learn when it suits them.

Of the resources forums proved to be the most popular, although some discussions were more favoured than others. Over 25% of the class viewed each forum with 'Characters' in *All My Sons* viewed by 48% of the class. Study guides and past exam questions were the next most popular, with practice assignments the least popular. Again though, of all the student forum posts 79% were made by the 3 most active users.

Some other trends noted but not explored that may be of interest and worthy of further investigation:

1. The users of the forums tended to be different to the users of the past exam question and study guide resources, so that it was a different 25% consistently viewing forums to the 25% viewing the exam questions.
2. Of topics areas general Shakespeare was least popular and *All My Sons* most popular, with all the other texts around the same. Use of the same resources across topics was not even.
3. Some students were aware of how to post but raised concerns about not knowing what to post when giving feedback on forums.

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9   A log is generated in Moodle whenever a user actively views and participates in an activity so gives a greater indication of participation than normal web counter hits.

The future

Starting from zero use of a VLE in English teaching, I think we made clear progress, with a definite value to continuing this process. Interactive literature was successful in generating interest and student engagement, and has given rise to wider academic participation. It has exhibited a potential to make learning fun; however, there is still work to be done to ensure widened use and success. As such, designing an online course should be viewed as an evolving development and there were a number of lessons to take forward into the next and future academic years.

Teacher involvement

Students expect responses to their posts, especially from tutors; however, it is not feasible for a tutor to sit in a forum 24/7 to achieve this. It may be worthwhile defining when tutors will be active to respond from the outset. Tutors must also carefully moderate the forum to encourage constructive learning discussion without restricting individual expression; it will be interesting to explore the potential for student moderated discussions to aid this.

Student involvement

There is still a lot of work to be done to involve the whole class; allowing students to personalise and take ownership of the site via tools such as databases, forums and wikis may be a way to achieve this. The potential to share discussion topics across local institutions using the same syllabus may also increase participation.

Resources

Plenty of ideas for new resources and redesigning old ones came out of this and a few are listed below:

- Try to have fewer, more active forums (i.e. more discussions in one place, rather than spread across page)
- Wikis to encourage collaboration and group work, for example rewriting a scene from Shakespeare.
- Fewer, more focused chances to submit practice essays.
- Develop timeline covering the Kings of England from Edward I to Henry VIII, allowing students to explore the Angevins and Plantagenets (1154-1399) and Shakespeare's representation of events in Richard III and other History plays.
- Develop an interactive history cycle, allowing students to interact with England's rich and turbulent history from 1452-1485 focussing on Richard II's usurpation, Henry V's victory at Agincourt, and the War of the Roses.
- Develop interactive maps, for example, the events concerning Richard III between 1483-85: rebellion, Buckingham's advance, area reinforced for Henry Tudor's expected landing, Henry Tudor's campaign, and the frontiers 1485.

Progression In Information Skills

Kate Marshall & Sarah Crofts
University of Greenwich

The objective of the Progression project was the construction of an online information skills support package for use in classroom teaching by Library or academic staff or as independent learning materials for students. The modules could be undertaken as a linear course or on a needs basis in response to diagnostic testing or formative feedback from academic staff, allowing differentiated pace and programme according to student need. Information seeking and handling skills are important in enabling students to move beyond reading lists, locate a range of appropriate material to support academic work and use information effectively and ethically.

The Problem - Background To Information Literacy In Higher Education

The Society of College, National and University Libraries (SCONUL) advises that 'both information skills and information technology skills are seen as essential parts of a wider concept of Information Literacy'. SCONUL goes on to suggest that 'some undergraduates are using the internet as their first port of call beyond the reading list. They need to address questions relating to the provenance, accuracy and reliability of the material'. This increasing prevalence of the internet means that training in this area is important to help students develop skills in the evaluation and academic use of internet content and to reduce plagiarism in this area. SCONUL identify two key aspects of information literacy in higher education:

(a) the strand relating to 'study skills' which students will need to call upon in the process of undertaking study at a higher education level - a 'tool' for the 'job' of being a learner
(b) the strand which is about students being prepared to take their part fully in whatever subsequent occupation/employment/activity they may choose upon leaving higher education[1].

Widening participation initiatives within higher education also mean that incoming students have varying levels of skill.

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1   SCONUL (1999). *Information Skills in Higher Education: A SCONUL Position Paper*. [Retrieved 31 Jan 2007 from: http://www.sconul.ac.uk/groups/information_literacy/papers/Seven_pillars2.pdf]

The Quality Assurance Agency (QAA) highlights the importance of honours students being able to demonstrate 'the ability to manage their own learning and to make use of scholarly reviews and primary sources (e.g. refereed research articles and/or original materials appropriate to the discipline)'. For Masters level students this suggested skill level is supplemented by the stated ability 'to evaluate critically current research and advanced scholarship in the discipline', and the need for 'a detailed understanding of applicable techniques for research and advanced academic enquiry'[2]. Techniques in literature searching, use of electronic databases and library resources for research are important in developing skills for independent learning and advanced academic study.

The abilities to recognise and meet an information need, critically evaluate and make effective use of information are all skills which will not only support academic study but also future employment and lifelong learning. The American Library Association (ALA) highlights the fact that 'on a daily basis, problems are more difficult to solve when people lack access to meaningful information vital to good decision making' and goes on to suggest that 'to be information literate, a person must be able to recognize when information is needed and have the ability to locate, evaluate, and use effectively the needed information'[3].

Professional organisations may have minimum expected standards of competence in certain key skills. For example, the Law Society and Bar Council consulted on changes to the pre-qualification training framework for solicitors and barristers (i.e. the academic stage of training). A Joint Statement issued by the Law Society and the General Council of the Bar sets out, under Schedule 1, 'the knowledge and transferable skills which should be addressed in any course of study leading to the award of a degree…' including:

- 'The intellectual and practical skills needed to research and analyse the law from primary resources on specific matters' (para a. iv.),
- [the ability] 'to use standard paper and electronic resources to produce up to date information' (para b. iv.)
- [the ability] 'to conduct efficient searches of websites to locate relevant information...' (para b. vii.)

In addition, Schedule 2 details the Foundations of Legal Knowledge which concludes: 'in addition, students are expected to have received training in legal research.' [4]

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2   Quality Assurance Agency for Higher Education (2001). *The framework for higher education qualifications in England, Wales and Northern Ireland.*
*[*Retrieved 08 June 2005 from: http://www.qaa.ac.uk/academicinfrastructure/FHEQ/EWNI/default.asp]

3   American Library Association (1989). *Presidential Committee on Information Literacy*.
[Retrieved 08 September 2005 from: http://www.ala.org/acrl/legalis.html]

4   The Law Society And The General Council Of The Bar (1999). *A Joint Statement Issued By The Law Society And The General Council Of The Bar On The Completion Of The Initial Or Academic Stage Of Training By Obtaining An Undergraduate Degree.*
[Retrieved 31 July 2007 from: http://www.barstandardsboard.org.uk/assets/documents/ja.pdf]

Library skills work may also form part of a strategy to address the need to demonstrate the implementation of the QAA Personal Development Planning strategy. The QAA strategy highlights the emphasis on making students 'effective, independent and confident self-directed learners'.[5]

Information Literacy In The School Of Humanities At The University Of Greenwich

The Academic Services Librarians previously supported a variety of skills development activities across the School but the degree of integration with the curriculum was variable across the departments. Often there was limited contact with students beyond first year library inductions. Examples of best practice within the School include the Legal Method course run by the Law department and the Foundations for Postgraduate Study module. Both these courses involve extensive involvement of the Academic Services Librarians in providing targeted teaching and training as part of a comprehensive academic skills programme. Both courses also involve coursework assignments which include library-related documents as part of a portfolio approach and encourage a reflective approach to learning. In other areas of the School, such as the department of History, Politics and Cultural Studies, the Academic Services Librarians have been involved in providing training and support for specific courses and assignments.

The SCONUL Seven Pillars model is a widely accepted UK national standard for Information Literacy Skills. The model identifies seven headline competencies of information literacy from identifying a need for information to effectively locating and utilising information for learning.[6] The Academic Services Librarians undertook a mapping exercise to identify appropriate learning outcomes based on the SCONUL Seven Pillars Model for Information Literacy and developed a Framework of Information Skills for the School of Humanities.

The first stage of implementation of the framework through face-to-face training and basic print and web-based support materials was successful in increasing information skills training provision but classroom teaching is limited by time constraints and volume of students and so a need to develop alternatives to face-to-face teaching was identified.

The Progression Course

A bid was submitted under the University of Greenwich Student Retention funding programme to support the development of the information skills course. The Academic Services Librarians designed a series of short information skills modules delivered within a WebCT information course available to all Humanities students, along with diagnostic testing quizzes to enable students to self-diagnose areas for information skills development. The modules allow students to control their own programme of learning and modules were aimed, in the first instance, at all students at

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5   Quality Assurance Agency for Higher Education (2001). *Policy statement on a progress file for Higher Education.* [Retrieved 08 June 2005 from: http://www.qaa.ac.uk/academicinfrastructure/progressFiles/archive/policystatement/default.asp#pdp]

6   SCONUL (1999). *Information Skills in Higher Education: A SCONUL Position Paper.*
[Retrieved 31 July 2007 from: http://www.sconul.ac.uk/groups/information_literacy/papers/Seven_pillars2.pdf]

all levels within the School of Humanities with a view to extending and developing the material for use across the University.

The online course extends the face-to-face induction and training provided by the Academic Services Librarians to on-campus students and provides online support to students studying off-campus, who may not have access to on-campus training. The course also enables 24-7 remote learning and provision of out of hours information skills support for full and part-time on-campus students and distance learners. Materials can be accessed in a blended mode as part of face-to-face information skills sessions or in a wholly online mode. No credit is attached to the course although constituent modules could be embedded into taught courses as appropriate and learning activities could be designed around the Progression modules.

Outcomes and Evaluation

Proposed outcomes include:
- Support for improving student retention rates by providing diagnostic testing and support for weaker students to enable them to develop their use of the library for academic work;
- Support for the achievement of the learning outcomes identified by the skills mapping exercise;
- Support for development of independent learning / life-long learning;
- Development of information handling and research skills which will support not only academic achievement but will also enhance future employability of students;
- Support for off-campus and part-time students who may not be able to attend face-to-face information skills training;
- Provision of out-of-hours support when contact with the Academic Services Librarians is not available;
- Support for achievement of QAA benchmarks relating to information skills and for Personal Development Planning portfolio building.

As well as supporting the skills development of learners the project also supported the Academic Services Librarians in gaining new skills. Knowledge developed includes WebCT designer skills, awareness of institutional and subject-related standards and policies with regard to e-Learning, an ability to undertake needs analysis for users and analysis of feedback and testing and awareness of issues relating to special educational needs such as accessibility compliance in course design and the use of assistive technology to access Library materials to support planning of appropriate activities.

Design of the Course

The first stage of the design process was to clarify the brief by establishing the needs of the users (see appendix 1). Through teaching experience and informal feedback from academic staff the project team had gained some understanding of the skills gaps shown by students in the School of Humanities but the team was aware of the need to involve the learners themselves in the design process in order for the materials to respond to learners' needs. Students were targeted using internal email distribution lists and invited to participate in a focus group. By way of an incentive all participants were offered a free £5 photocopy card for use in the Library.

Despite ten students replying to say that they wanted to take part only one student actually attended the event and kindly talked to the project managers about his information skills. Through open questioning, project managers were able to gain some insight into the ways in which a student might search for and use information. Following the failure of the focus group the team gathered further student feedback by targeting student library shelvers and library regulars.

With the skills mapping exercise and the SCONUL Seven Pillars model in mind the project team identified eight key areas of information skills training:
- Using the Library Catalogue;
- Information for Academic Study;
- Finding Quality Information on the Internet;
- Using Electronic Journals and Databases;
- Bibliographic Citation and Avoiding Plagiarism;
- Locating Information For a Project;
- Using Other Libraries and Archives;
- Communication of Information;

It was anticipated that foundation and first year level students would probably focus on modules such as *Using the Library Catalogue* and *Finding Quality Information on the Internet* while third year and postgraduate students might concentrate on areas such as *Locating Information For a Project*, *Using Other Libraries and Archives.* The project team did not, however, want to be prescriptive about what modules would be appropriate for each level of student, preferring to allow each learner to select their own course of study based on their own needs.

## Functionality and Navigation of the Course

Modules can be undertaken as a linear course or on a needs basis in response to diagnostic self-testing or academic feedback. The content is delivered via the internet in the password controlled WebCT virtual learning environment on an anytime-anywhere basis. Modules can be accessed by clicking either the module name or the accompanying icon.

Module Home Page

Each module consists of pages of information navigable either by the table of contents or by the arrow links at the top right of each screen. The material was broken down into bite-sized chunks to minimize scrolling which can be an issue for those with motor impairment and also to enable users to view the table of contents and quickly jump to the specific information they require.
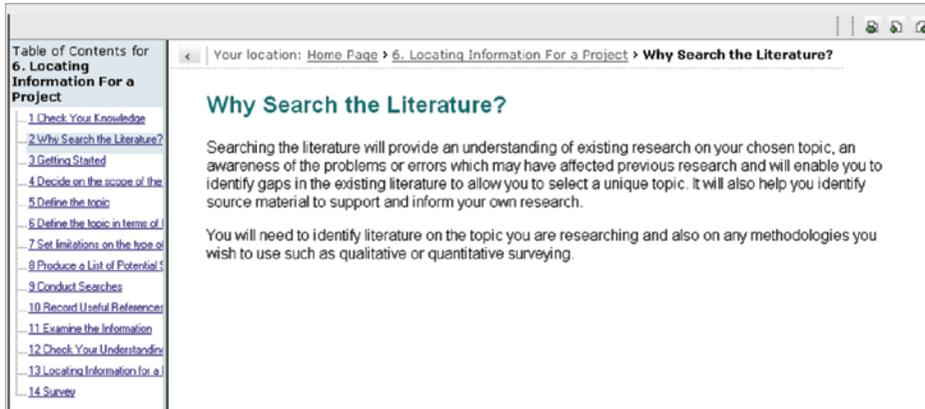
A module Table of Contents

Each module starts with the diagnostic quiz, *Check Your Knowledge* to test existing knowledge in the skill area. Users receive a score but no feedback. The quizzes are designed to enable a student to determine for themselves whether to undertake a module based on whether a low or high score is achieved. Thus users are able to differentiate their own programme of learning on a per needs basis. Users do not receive feedback other than a score at this stage to encourage them to work through the learning materials and develop their knowledge in the general skill area rather than just receiving a quick fix answer to a specific question.

Pre-module feedback

The module ends with the *Check Your Understanding* quiz, which repeats the questions in the pre-module quiz. At this point users receive formative feedback as a final attempt to develop their understanding of the topic.

Post-module feedback

The quizzes were created using Hot Potatoes which offers a range of assessment options. "Hot Potatoes is not freeware, but it is free of charge for those working for publicly-funded non-profit-making educational institutions, who make their pages available on the web." [7]

The project team initially chose to create exercises within Hot Potatoes rather than using the WebCT quiz function, finding the WebCT tool to be pedagogically weak due to the fact that quizzes could not be embedded directly into modules but had to be accessed from a central quizzes page. Following improvements in the WebCT assessment tools following the last upgrade, there is now more scope to embed assessments within module content and so these quizzes are currently being transferred from Hot Potatoes to WebCT.

As WebCT does not lend itself to a user friendly print layout, PDF documents were created using Adobe Acrobat PDF Writer to enable users to save or print module content for offline use.

Evaluation And Feedback

The WebCT tracking tool provided information that there had been a total of 450 user sessions between October 2006 and June 2007. The average length of session was 12 minutes and the average number of sessions per day was four.

Surveys, created within the basic free version of survey tool SurveyMonkey, were included at end of each module to gather user feedback for analysis to contribute towards the further revision and development of the course[8]. To encourage honest feedback without fear of sanction, users were not required to provide their names or contact details, although - as an incentive to encourage participation - those who did supply their details were entered into a prize draw for an iPod Shuffle. The generic password for access to the course meant that we were not able to monitor the progress of individual students. To establish the impact of the materials the questionnaire asked users to self-evaluate skills in the topic area of each module prior to commencing the module and again after completion and also to rate the material for usefulness.

Encouragingly, there was a significant increase in the average level of skill from the pre-module scores to the post-module score:

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7   Hot Potatoes Home Page available at: http://hotpot.uvic.ca/ (Retrieved 26 July 2007)

8   *Survey Monkey* available at: http://www.surveymonkey.com/ (Retrieved 26 July 2007)

Module	Pre-module Score	Post-module Score
Using the Library Catalogue	6.6	8.9
Information For Academic Study	7.0	8.8
Finding Quality Information on the Internet	5.7	8.6
Using Electronic Journals and Databases	5.0	7.8
Bibliographic Citation and Avoiding Plagiarism	5.3	8.2
Locating Information For a Project	7.0	9.0
Using Other Libraries and Archives	n/a*	n/a*
Communication of Information	6.0	9.5

*no questionnaires were completed by users for this module

The questionnaire also allowed users to submit free-text comments. Some other examples of feedback from staff and students included the following comments:

I will recommend this to my students! It's great.

It's really useful to have a quick reference guide when you've forgotten something or just can't quite remember where to go to find something out.

The module had given me skills to undertake finding materials required for my course of study.

Simple, and to the point.

Have wasted a good deal of time in the past with poorly conducted searches of databases on electronic journals. Having read through and being able to access this info. will hopefully make my searches more efficient and speedy.

The Future Of The Progression Course

During summer 2007 the module content was checked by the cross campus Information Skills Group and modified or updated accordingly to ensure suitability for all subject areas. It will continue to offer a generic core of skills but with a new feature - subject specific material via links to INFORMS tutorials.
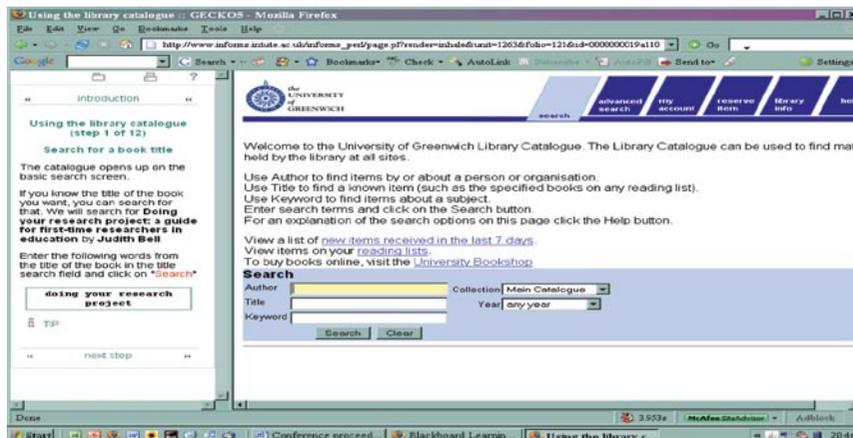
Example of an INFORMS module

INFORMS is a free, interactive tool developed specifically to assist the development of information skills training, consisting of design software and a database of skills tutorials and a flexible adaptive tool for the creation of interactive online tutorials. The INFORMS project aims to create "a shared community resource, which can be re-used by other registered users to facilitate creative collaboration."[9] Informs uses a split screen to display to allow live practice alongside a skills tutorial.

From September 2007 Progression was extended across the University of Greenwich for use by all Schools and Partner College students. It will be available to all staff and students via the University of Greenwich Portal and will be promoted by the University of Greenwich Academic Services Librarians to staff and students in their Schools.

Contact the project team by email: Progression@gre.ac.uk

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9   *Intute INFORMS* http://www.informs.intute.ac.uk (Retrieved 26 July 2007)

Appendix 1: Project Timeline

Phase 1 - Design and Creation of Course: deadline March 1 2006
Planning of course content and design
Production of a project blog and project web page to disseminate information about the project and its progress.
Creation of content modules.

Phase 2 - Testing and Trialing of Course: Early Summer 2006
Identification of trial users and piloting of modules.

Phase 3 - Finalisation of Course: Late Summer 2006
Analysis of feedback. Revision and re-testing.
Creation of training and publicity materials.

Phase 4 - Live Release of Course: Sept 2006
Release of course to School of Humanities staff and students.
Publicity and promotions to staff and students.

Phase 5 – Evaluation and Development of Course Materials: Academic session 2006-7
Design of evaluation questionnaire
Analysis of feedback from questionnaire, WebCT tracking data and informal feedback from staff and students.

Phase 6 - Live Release of Course across University of Greenwich and Partner Colleges: Sept 2007
Release of the materials across the University and partner college students via the student portal.

Cultural And Contextual Challenges For Practitioners From The Jisc Design For Learning Programme

Jane Plenderleith & Veronica Adamson
Co-Directors, Glenaffric Ltd[1]

The JISC Design for Learning programme is relevant to anyone with an interest in design for learning concepts and challenges, learning management systems, tools and approaches, and the development of communities of practice in designing for learning in the tertiary education sector across the UK and beyond.

Development

The JISC Design for Learning programme (May 2006 – May 2008) brought together two key strands of the JISC e-Learning Programme – technical framework and tools, and pedagogy – to ensure that the conceptual and practical implementation of designing for learning is informed by effective pedagogic practice. The programme aimed to:

- ensure the process of designing learning activities is based on sound pedagogic principles, evidence-based and learner-centred;
- promote the development and implementation of tools and technical standards to support designing for learning;
- promote the sharing of expertise in design for learning;
- support the establishment of communities, services and resources to promote and sustain effective practice in design for learning.

The programme is part of the larger, longer-term JISC e-Learning Programme Pedagogy strand of development work and activity that is exploring two thematic aspects of e-learning: "designing for learning" (with a practitioner focus) and "understanding my learning" (with a learner reflection focus).

Context

The programme supports a Models of Practice project, which aims to develop a practitioner-focused resource describing a range of practice models of learning activities with technology and indicating how these may be applied in practice, and two Pedagogical Planner projects developing online practitioner-focused planning tools for designing effective learning activities. It also supports nine implementation projects across a range of HE institutions and colleges, and a support project managed by the JISC CETIS service.

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1   Glenaffric Ltd is the formative evaluator for the JISC Design for Learning Programme

Key issues of institutional context emerging from the evaluation include levels of strategic support and direction, concepts and processes to facilitate and manage institutional change, levels of control and autonomy, prevailing academic perspectives and perceptions.

In relation to academic subjects, designing for learning presents profound methodological challenges for some disciplines including practice-based areas and field research-oriented subjects. The programme is also exploring issues with designing for learning relating to different types of learner across a range of institutional types and contexts, from postgraduate researchers to some particularly challenging groups of young learners in socially deprived areas. In addition, practitioners are raising and addressing questions relating to approaches to professional development and capacity building in the sector, and the extent to which staff are open to new ideas and approaches.

Evaluation

The programme-level evaluation was concerned with meeting the challenge of gathering and analysing conceptual issues and cultural factors in the relatively new, small and intensely analytical field of designing for learning. Evaluation methods include documentary analysis, project focus groups, interviews, and programme-wide discussion and feedback sessions.

However, recognising that designing for learning is a relatively new and complex area for development and exploration in an evaluative sense, an online environment was developed using Moodle for gathering and analysing project experiences. A large part of the rationale behind the development of this system was to provide an accessible means of gathering information about conceptual issues, cultural factors and user requirements on a regular and ongoing basis.

There were some fascinating cultural and pedagogic observations in the submissions, and some contributors recorded the development of conceptual thinking in the projects over time. Some of the cultural and conceptual issues of interest for practitioners arising from the programme evaluation included issues of institutional culture, size and type, designing for learning issues for different subject areas, types of learner, staff attitudes and the professional development context.

The evaluation focused on the following key questions:
- What is effective design for learning?
- What efficiencies are afforded by design for learning approaches?
- Do design for learning approaches work?
- How pleasing are design for learning approaches in use?
- To what extent do ethical and legal issues affect design for learning?

Effectiveness In E-learning Design

The fundamental rationale behind the JISC Design for Learning programme is to support practitioners in the process of designing, planning and orchestrating learning activities in a range of learning programmes and contexts across UK FE and HE. Through facilitated discussion on the issues emerging from the programme evaluation, the presentation explored this rationale

with a view to raising and addressing practitioner challenges and contributing to the overall understanding of effective designing for learning.

Conclusion

The conference session considered the extent to which engaging with design for learning requires an understanding of pedagogical principles as well as some level of technical ability. It addressed the differences and synergies in the activities of designing for learning and planning for teaching, between tools and systems that promote active learning, and those that support enhanced academic practice. It also addressed some of the challenges for practitioners in using technical tools and systems to maintain and enhance the dynamic spark of expertise and enthusiasm in learning and teaching.

Through facilitated discussion focusing on a concept map of the issues emerging from the programme evaluation, the session raised and attempted to address some of the key practitioner challenges, and contribute to the overall understanding of effective designing for learning.

The Impact Of E-Learning On Traditional Notions Of Critical Thinking: Experiences Of Design And Delivery

Lynne Jump
University of Greenwich

Critical thinking skills have been developed in an e-learning environment in part because of the opportunities for "situatedness" and "situated learning" that electronic learning offers[1]. This situated learning environment aims to bring together experience, context, backgrounds and concepts, in order to help learners develop a concrete idea of what the general course concepts are and how to use the knowledge.

Situated learning, which is often connected with experiential learning, is thought to be an effective strategy when the concepts are presented in an "authentic" environment, and where there are opportunities for collaborative, interactive, social learning.

Context

This critical thinking skills course was suitable for a range of level 2 undergraduate programmes in Health and Social Care, although it could be adapted for other contexts. Students learning about specific health subjects were encouraged to bring to the course, in a very active way, their experiences and professional identity through the use of case material. They analysed arguments, discussed alternative scenarios and importantly extrapolated consequences, and this allowed students to develop their ability to recognise, classify and interpret different patterns of reasoning.

This was a course designed to meet the particular needs of a group of learners, a fact which has made an impact on the course design. Many of the ideas and examples arose by way of teaching critical thinking to these students at level 3. It was felt that by undertaking this course at level 2 it would prepare them for independent project work and the higher order thinking skills required for level 3 rather than students having to learn those skills at the same time as using them.

The website was presented in WebCT version 6 in such a way that encouraged individual critical thinking skills development whilst allowing ample opportunity to discuss ideas and argue with fellow students.

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1   "Situated learning" in this case means "to learn and use critical thinking skills within the context of the internet and electronic sources of information".

Development

Students were actively encouraged to bring personal and professional experiences to bear on the course. For example, if they were learning about complementary therapies they could explore electronic texts, images, audio files etc that related directly to them. They could then construct a personal file that integrated the course material into their interests and discipline, before posting the text, image, or audio files into in a shared space to allow other students to respond to and discuss them.

Students were asked to make connections, evaluate and present arguments of their own. They then shared their work, or, even better, collaborated in joint activities.

It is hoped this aspect will become even more effective through the use of blogs, wiki's and threaded discussions. Individuals would then be able to reflect on the meaning of the activities to them through the use of a personal journal. Using an electronic learning environment would be key to the success of this approach.

Students collected, recorded, and shared information, either in real-time (as in instant messages, video-chat, or voice-over-telephony), by e-mailing each other or posting images or collected data in various electronic locations.

Evaluation

When evaluation takes place, its main focus will be to compare the performance of the learners at level 3 with historic performance, particularly in relation to independent project work. The evaluation will be based on the key question of:
Can we get better results in the undergraduate project course by using this resource as a level 2 course?

The focus of the evaluation will then be to explore the course in relation to:
- *the total programme*: should it be here taking up valuable curriculum space?
- *the course design*: is it likely to work well or can it be improved?
- *the course materials*: are they effective in terms of learning and enjoyability?
- learner support.

The course will be tested by a group of 'guinea pig' students and will be discussed with a variety of lecturing staff on whose programmes it will have an impact.

Conclusion

This is a course that was designed to meet the particular needs of a group of learners, which has made an impact on the course design. The course allowed students to study with other learners a difficult and abstract subject and yet get managed feedback and support. They had ready access to a large supply of materials and resources that are needed to learn the specific health discipline, and their experience in learning this could then be put to direct advantage in future learning. The students were learning to think critically through active study.

Juggling With Jelly – Facilitating A Group Tutorial In A Multi-User Virtual Environment

Anna Peachey & Jacquie Bennett
Open University

This case study examined an Open University tutorial on Exploring Information and Communication Technologies, executed in the Multi-User Virtual Environment, SecondLife. The authors, both teaching fellows at the OU's Centre of Open Learning in Math's, Science, Computing and Technology CETL, were researching how teaching and learning can be restructured to work successfully in the virtual environment.

Development

The authors drew on a mixture of theory and practical experience to design learning activities for a two-hour tutorial in-world, with a total of 14 participating students. The tutorial was a successful learning experience for the students and provided a rich source of material for reflection and analysis against learning styles theory.

Our tutorial "Networked Living: Exploring Information and Communication Technologies" (T175) was a direct descendent of "You, Your Computer and the Net" (T171) - the first OU course to use tutor group conferences in a virtual learning environment on a mass scale. This gave T175 a pedigree of pushing boundaries to engage students with learning in the twenty-first century.

Students on T175 signed up for a mix of face-to-face and online (VLE) tutorials. They submitted assignments electronically and usually kept in touch with their tutor by email. This confidence in basic web skills, combined with the motivation to choose a course on information and communication technology, made T175 participants an ideal student base with which to start exploring the active learning potential of multi-user virtual environments such as SecondLife. The authors are both experienced Associate Lecturers on T171 and T175.

Context

The learning activity took place in the public-access virtual world SecondLife, on an island called Cetlment that is wholly funded through the COLMSCT CETL at the Open University. Access to Cetlment is restricted by group membership, forming an essentially private learning space of

57,600 virtual m^2, of which a central area of 9000m^2 has been developed so far with interactive orientation, socialisation, teaching and learning areas.

Building has been planned with reference to good physical learning space design principles, but developed to embrace the '4th dimension' context of virtual world physics.

Central Plaza, Cetlment Island

Having created the basis for a learning environment, the authors proposed and executed a staff development session (on the subject of the potential in SecondLife for teaching and learning) with a group of 9 Open University Associate Lecturers. Lessons were captured from this inaugural Cetlment event and fed into the design of learning activities for a live tutorial with T175 students.

Both authors had tutor groups of 17 students for T175, of whom roughly 14 in each group could be considered active participants. Students on T175, a first level 30-credit course, demonstrated the usual OU mixed dynamic of ages and ability. The Cetlment tutorial was listed in the normal way alongside traditional locations, and it was stressed to students that a face-to-face alternative was available. Students were given bespoke access information for SecondLife prior to the tutorial and were encouraged to familiarize themselves with the environment through the use of orientation stations within the teaching and learning space.

This open approach meant that the 14 eventual participants in the case study tutorial were essentially self-selecting from the general target group, and it wasn't necessary to spend time orienteering in the tutorial session or overcoming significant technology limitations. Widening the participation will be considered at a later stage of the project.

Implications for Learning and Teaching
The Cetlment project was established as a base for mapping learning styles to online learning, with reference to identity and community integration. The authors were researching how teaching and learning can be restructured to work successfully in the virtual environment with respect to the role of learning style and learning pathway using Vygotskian theory and a situated constructivist perspective.

The multi-user virtual environment enabled learners to construct their own learning identity, potentially empowering them to engage with learning materials and interact and collaborate with peers and/or facilitators with increased confidence. Much as real world learners adapt their identity for tutorials or socializing, learners can evolve and adapt in SecondLife - with the added dimension of being able to completely change their physical aspect.

The authors proposed that learning in SecondLife happens within a social constructivist framework and makes use of game-based learning. Understanding how learning takes place in this immersive environment is vital to inform a model for teaching and delivery. Using experience, observation and lessons captured from the staff development session (see above) the authors structured a tutorial session lasting 2 hours. The tutorial was co-facilitated with a dynamic approach to session leading. Tutors maintained a continuous dyadic dialogue throughout using instant messaging external to the environment. Communication in-world was enabled through a mix of chat and instant messaging both one-to-one, one-to-many and many-to-many in small group work.

Activities started with an icebreaker discussion, moved on to a simple maths session where examples were shown and problems distributed for group work, and concluded with an individual reflective activity on learning styles. Tools used included in-world whiteboard and notecard givers as well as activity markers.

Evaluation

Informal reflection, gathered at the end of the tutorial, indicated that all students enjoyed the experience with many asking when the next one could be scheduled. With the permission of the participants, chat logs were kept for all discussions during the tutorial. The authors are systematically reviewing these against group and individual learning models, and have observed evidence of cultural tool exchange in imitative learning, instructed learning and collaborative learning, supporting the Vygotskian perspective.

Conclusion

The authors have recorded in detail their own experience of the practical requirements for managing the tutorial and intend to build on this with further work to inform skills and knowledge guidelines for effective teaching in MUVEs.

The use of immersive gaming environments for teaching and learning is relatively unexplored, and the authors believe that every small step in constructing knowledge in the field should be disseminated as a contribution to effective design for learning.

Developing the MarkerWiz CheckSheet

Doug Stuart
University of Greenwich

The provision of quality feedback to students on written assessments is a major concern across the spectrum of Higher Education. MarkerWiz has been developed as a tool to help streamline and improve the quality of such feedback at the University of Greenwich.

About MarkerWiz

The MarkerWiz CheckSheet is a coursework feedback tool designed to help identify and provide comments on the most common problems in student essays in the use of academic conventions, language and structure. This enables tutors to easily provide computer based written feedback on the frequently reported problems of student literacy and lack of academic conventions.

The generic nature of these problems makes this approach applicable across a wide range of disciplines. It is particularly relevant for marking first year students' work – where similar errors or problems very often occur across a cohort.

The MarkerWiz CheckSheet also comes with a library of comments, which can be used for different marking tasks such as essays, reports, plans and research proposals. These can be customised to discipline-specific or individual needs.

Pedagogical issues

The use of computers to enhance feedback on student assessment raises a number of pedagogical issues. For example, how should different elements be weighted? To what extent can grades be awarded or deducted for language use and conventions as opposed to comprehension or analysis? How do students understand and use the feedback they are given, and what is the impact of a degree of standardisation on this?

The issue of feedback on assessment is a major concern of the University. In Last year's National Student Survey it was a significant area for low scores. High student numbers, combined with the increased emphasis on formative assessment, means the proportion of time tutors spend marking student assignments has become a major component of academic workloads. Computerization of this work will enable speedier turn-around of coursework, more detailed comments in a word processed form and much greater detail in the identification of errors and ways for students to improve work.

Implementation

The MarkerWiz CheckSheet was made available to staff in the School of Humanities in November 2006 to be used by approximately ten tutors marking essays and other assignments.

The project used a blended approach to e-learning. The computer tool was developed through research drawing on conventional feedback mechanisms, which might have been typed, handwritten or oral. The MarkerWiz provided an electronic tool for tutors to produce a printed feedback form evaluating student coursework. Students could be presented with the feedback template to examine their own coursework before submitting it in the normal fashion.

Effectiveness In E-learning Design

There were a number of ways in which this project clearly demonstrated effective design for learning. First, by reducing staff time required to make detailed feedback on common errors in student essays and to improve the quality and quantity of that feedback, MarkerWiz was clearly adopting e-learning to enhance effectiveness and efficiency.

Second, by identifying and disseminating electronically best practice in feedback made on student essays, the project demonstrated its capacity to collaborate, share and disseminate models of good e-learning practice.

Third, MarkerWiz developed new methods for the new medium through a blended learning approach drawing on conventional media for providing student feedback and transforming them into an electronic medium. It could also be said that its research into and electronic dissemination of student feedback was a clear example of good e-learning practice through an open and inclusive approach.

Finally, the project encouraged the development of materials that are flexible enough to meet the diverse needs of a student population.

A Nomadic Model For Communities Of Practice In Design For Learning: The Jisc Elida Camel Project

By Dr Jill Jameson
University of Greenwich

The JISC-funded eLIDA CAMEL (e-learning Independent Design Activities for Collaborative Approaches to the Management of e-Learning) Design for Learning (DfL) pilot project carried out user evaluations, implementing and evaluating design for learning tools and sequences within the JISC pedagogic e-learning programme in 2006-07.

Development
The project was built on results gained in 2005-06 from two prior e-learning projects: the JISC eLISA Distributed e-Learning and HEFCE/LGM-funded JISC infoNet CAMEL communities of practice projects.

The eLIDA CAMEL team collected Design for Learning case studies and sequences in a range of post-16/HE contexts using LAMS (Learner Activity Management System) and Moodle with minor consideration of RELOAD. The project brought together learning activity sequences from post-16/HE partners into a collaborative e-learning community of practice based on the CAMEL model, contributing to national and international evaluation of DfL.

Achievements
The project achieved a number of key tasks in its first phase, supporting design for learning activity, and exploring intentionality in the development of a DfL community of practice, and the role of networking and social software in bridging tensions between formalised intra-institutional e-learning relationships and inter-institutional project team dynamic DfL practitioner development.

Context
The project benefited from the experience of partner organisations in eLIDA CAMEL from both the eLISA and the CAMEL projects, as partner representatives have established knowledge and good relationships with project participants.

Valuable lessons were learned from the original JISC infoNet CAMEL project developed with the HE Academy, JISC and four UK-wide HE and FE partners. This included the framing of a CAMEL

community of e-learning practice model developed iteractively by the partners in several prior publications and conference disseminations.

The CAMEL model continues to inform and further evolve within the eLIDA CAMEL DfL community of practice partnership. The experience of JISC infoNet, ALT and all original key CAMEL project partners has provided the foundation for the continuance of complementary project roles in promoting good practice in the good management of e-learning in post-compulsory education.

Formative experience learned from prior work has been significant in ensuring that the key elements of a stable, robust, friendly and cost-effective sustainable nomadic CAMEL model of logistical operation is being followed effectively.

Useful lessons were also learned from the eLISA project regarding the way in which to carry out a university-college-school e-learning partnership project with teacher practitioners and mentors, including training, trialling and evaluation of LAMS and Moodle sequences and study skills in the classroom with learners. The target audience for this session is e-learning practitioners and managers interested in setting up a community of practice in design for learning, and in learning about the CAMEL model and its development.

Good Practice

The eLIDA CAMEL practitioners are developing design for learning case studies involving a range of different teaching and learning contexts in 14+, lifelong learning and HE. The CAMEL model for communities of practice, combined with a localised model for mentoring e-learning practitioners, has been further developed and implemented in the project.

Good early planning for and clear communication about project visits involving many partners from across the UK has been important, providing opportunities for networking and social space for team to discuss project work: a key element in building a community of practice. Training, trialling and evaluation of LAMs and Moodle sequences and usage in the classroom by teachers with learners, supported by mentoring, has been the focus of the technological tool usage so far.

The eLIDA CAMEL team will be trialling and critiquing the DfL case studies and sequences provided by members of the team in LAMS and Moodle sequences with minor consideration of RELOAD. In the rolling visits which form part of the collaborative e-learning community of practice, the partners will engage with, trial and support each other in critiquing the design for learning/ learning design sequences developed by members of the team.

Evaluation

Evaluation work is ongoing. An evaluation consultant for the eLIDA CAMEL has been engaged and evaluation questionnaires have been implemented using Surveymonkey during and after workshops and visits.

Results from questionnaires indicate a range of lessons learnt, including the fact that it is essential to have clear, straightforward messages for a project involving many partners, and to enable

people to engage through an online resource in which project documents are available for back-up information.

It is also critical to remind a large team of tasks due and have allowance for flexibility between different aspects of work, so that there can be appropriate levels of responsiveness to changing circumstances. Dissemination activities already undertaken include presentations at a range of JISC pedagogic programme meetings, and the project is also intending to present at ALT-C and AACE E-LEARN conferences.

A BJET journal article relating to the project was published in Autumn 2006. There are likely to be further journal articles and other disseminations on the project, including those involving the results of the design for learning rich case study analysis, as well as those relating to the community of practice and collaborative leadership aspects of the project and its implementation.

Effectiveness in e-learning design

The project is providing a useful 'seed-bed' for testing the development of a community of practice in the implementation and evaluation of design for learning tools and sequences with distributed post-16/HE partners.

The project will collect a number of rich case studies from the local implementation and evaluation of design for learning sequences and tools in blended learning classroom and online learning environments in a range of contexts, supported by mentors and peer evaluation in DfL partner visits. These will provide recommendations on the effectiveness of design for learning in a range of post-16/HE contexts.

The particular impact of this project will be enhanced as a result of developments in the CAMEL e-learning model, which has already attracted international interest through the BJET article, JISC infoNet disseminations, HEA and JISC interest and involvement, and the participation of project members in the LAMS international conference on design for learning.

Phoebe: A Pedagogic Planner To Promote Innovative Practice In Design For Learning

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Funded by the JISC Design for Learning programme, the Phoebe Pedagogic Planner project is building a tool to help teachers in post-compulsory education create learning designs in ways that match how they already work, rather than imposing on them its own vision of how this process "should" happen.

Development

Phase 1 of the project built a proof-of-concept solution, which evaluators considered to be an excellent resource to guide people about the process of design for learning. They also made valuable suggestions for improving its usability as a tool for creating actual learning designs.

Phase 2 of the project addressed these issues, and furthered our understanding of what a pedagogic planning tool should be, through meeting and discussing with similar projects.

Context

The Phoebe pedagogic planning tool was developed as part of the JISC Design for Learning project, which recognised that this was a complex space in which there was a need for more assistance for ordinary practitioners engaging in this process.

More generally, the project came out of a background of interest in design for learning in the post-compulsory sector, motivated by several factors, including:
- a shared belief in a learner-centred and activity-focused model of learning;
- the difficulty of realising this model in content led VLEs;
- the desire for practical guidance on designing for e-learning and a means to describe, practice; and
- the Government's E-learning Strategy, which seeks to promote experimentation through the use of simple e-learning tools.

Phoebe focuses on the "planning" stage of designing for learning, giving support and guidance about the aspects to be considered when constructing a learning design. The tool is currently targeted at all practitioners across all sectors of post-compulsory learning (i.e. HE, FE, ACL and work-based learning). However, we recognise the risk of losing focus in producing a "one-size-

fits-all" tool, and in future versions we may introduce the option for individual user groups or institutions to customise the tool for their own contexts.

Aims

The Phoebe project aims to guide practitioners working in post-compulsory learning (FE, HE and ACL) in designing effective and pedagogically sound learning activities. To realise this aim, the project team is undertaking three key steps:

- Developing a prototype online planning tool that offers users both flexible and guided paths through the planning process and enables them to access a wide range of models, research findings and examples of innovative learning designs – this is intended to encourage them to explore new approaches and tools in their pedagogy;
- User-testing the planning tool for functionality and usability; and
- Investigating the feasibility of further development and the integration of the planning tool into pedagogic practice by embedding use of the planning tool into a specific context for piloting and evaluation: namely, initial practitioner training and/or continuing professional development.

In technical terms we aimed to use and adapt existing open-source tools rather than try and create to create functionality from scratch. Thus in Phase 1, Phoebe was based on the open source wiki TRAC.

Evaluation

In keeping with the requirement for a practitioner-focused tool, the Phoebe project has involved lecturers, tutors and teachers from across the spectrum of post-compulsory learning to help scope requirements at all stages of the project. Specifically, these participants fulfil three roles:

- "practitioner-informants" in the design process;
- partners in our embedding activities;
- "critical friends", taking part in our evaluation of the prototype tool and its underlying concept.

As indicated, reaction to Phase 1 of Phoebe has been generally positive, although some concerns were expressed about its usability. These issues should be addressed in Phase 2 of the project.

The Phoebe project has been presented at a number of events, including the Alt-C 2006 and CAL '07 conferences and meetings of the JISC Pedagogy Experts' Group.

Effectiveness In E-learning Design

The Phoebe project aims to help practitioners undertake effective design for learning in four ways. First, it has drawn on evidence gathered directly from the field, in addition to the principles of good practice and learner-centred design advocated by the existing research literature.

Second, the involvement of practitioners in design as well as evaluation is intended to maximise the usability and usefulness of the tool, thereby ensuring that it dovetails with the process of

design for learning as currently practised. Third, by linking the tool to outputs from other projects in the Design for Learning programme, and also to repositories and community sites containing exemplars of good practice, the project should contribute to the sharing of expertise.

Finally, the establishment of a community of users is built into the project's development methodology, in particular our work with the "practitioner-informants," a number of whom have already expressed their readiness to disseminate the tool to colleagues within their own institutions.

Effective Recruitment And Selection Of "Online" Tutors

Sharon Slade & Fenella Galpin
Open University Business School

The Open University Business School (OUBS) has offered online tuition versions of several courses for the past six years. This case study discusses our experiences in developing a different approach to the recruitment of Associate Lecturers for online tuition courses.

Development

Many of the standard OU procedures relating to tutors (Associate Lecturers) have required further consideration and revision for the OUBS online-only community, who may be based anywhere within the UK (and in parts of Europe).

The approach we have adopted recognises that additional skills and approaches are required for online support. These include the basic technical skills and access to appropriate IT, as well as an understanding of the constraints and benefits of online communication, the use of appropriate language, and cultural differences.

We also needed to take into account those factors introduced as a natural consequence of working with online media - for example, the timing of appointments and the geographic dispersal of our tutors.

Context

The traditional approach to the recruitment of OU tutors required minimal demonstration of the required technical skills for an online environment. Nor did it require an understanding of the differences in the skillset needed to tutor effectively online. In recognition of this and the impact on students supported by our online-only tutors, it was seen as crucial that we adapt our approach to recruitment in order to engage tutors with more appropriate skills.

We have developed an online recruitment process that requires both ourselves and our potential tutors "practise what we preach". Potential tutors must demonstrate the necessary skill for tutoring and facilitating groups of students online, through various online exercises and responses to questions and sample online community postings.

Our experience will be of interest to those who are looking to recruit tutors to facilitate groups of students online and give them an understanding of the skills and competences required from those tutors. It will also help to develop an effective way of assessing those skills and competences.

Methodology

Potential tutors were assessed through a variety of carefully designed sample conference messages and other online assignments. These mirrored the typical experience they might have as a Business School online tutor/facilitator, working with groups of managers studying for Certificates, Diplomas and Masters degrees in Management.

It is anticipated that this approach will evolve as a result of experience and be applied to a wide range of different courses and requirements.

Conclusion

An interesting variety of new tutors have been recruited, and we have refined and adapted our approach across many programmes, developing a set of explicit competences for online tutoring, and ways of measuring those. We believe this approach proves that the skills of an effective online tutor contribute much to effective design for learning.

Assessment Offences Administration Tool

By Richard Jones
Principal Lecturer, CMS,
University Of Greenwich

An e-learning project established the need within the University of Greenwich for a number of central resources to deal with the growing problem of plagiarism and other forms of assessment offences. One of the outcomes was the development of a computer based administration system to deal with these offences. The School of Computing and Mathematical Sciences already used such a system and this was extended so that it could be used across the University.

Context

Research across the University revealed a number of key issues, the most relevant being that the processing of cases was extremely time-consuming. The existing system was entirely paper-based. There was therefore widespread support for an IT-based system.

In addition, it was clear that there was a need for consistency across the University in the way that assessment offences were handled and recorded, as well as for full historical records to be kept.

Key members of staff (Directors of Learning and Quality, ILS, representatives from the Banner team, Student Union) were invited to interview. This was followed up by an emailed questionnaire to those who had not responded.

Analysis of this research was presented to a PVC, and this was followed by a presentation to the University Learning and Quality Committee. As a direct result of this, an Academic Conduct Working Group was set up.

One of the early recommendations made by this working group was that the system should be adopted by other Schools within the university.

Development

The School of Computing and Mathematical Sciences at the University of Greenwich has developed an information system which allows the recording and monitoring of assessment offences, supports the administrative process, and produces various reports and statistics which feed into other processes.

It consists of two parts:
- An outward facing web interface which allows for the recording of cases by individual members of staff. It is a secure site accessible from the school's intranet;
- A local database application which provides an administrative system designed to be used by Academic Conduct Officers.

The system has been shown to greatly reduce the time and effort in dealing with cases as well as providing the opportunity to produce searchable historical records including information to be fed into examination boards and other systems.

The system is closely coupled with the university's student records system to reduce the amount of data entry and is informed by the university's policies and procedures for dealing with cases.

The introduction of a computer based system has been shown to greatly reduce the administration time involved with processing cases.

The system keeps historical records of all cases, and the frequency of cases for a particular individual is flagged. The system keeps data for the whole institution and therefore can deal with students on combined programmes who study across Schools.

Data is retrieved from the central record system to minimise data entry and prevent errors, and results of the cases are fed back to the system.

Monitoring data is available in a flexible manner, both to feed into the academic process (e.g. exam boards) and to compare treatment of cases across Schools.

Methodology

The application follows a business workflow which is based upon the policies and procedures laid down by the university regulations. Actions at each stage of the procedure are logged and dated with full details e.g. records of interviews, details of witnesses, letters sent out.

Adoption of the system across the institution helps to ensure consistency in the way cases are handled across Schools. All recorded information is available to be given to the student.

Evaluation

External examiners have praised the way that we tackle assessment offence cases.

To the best of our knowledge, comparable systems do not exist or if they do are not widely available. The need for such systems has been highlighted at the JISC plagiarism conferences.

Informing E-learning Design And Practice: Lessons Learned From The Student Experience Of E-learning

Mandy Atkinson & Kate Armstrong
The Business School
Greenwich University

This project examined the student experience of online learning, with particular reference to e-learning experiences amongst first and third year undergraduate students across three Schools at different stages of e-learning development within the University of Greenwich.

Methodology

Seybold (1998) cited by Mclellan (2000) suggests that before looking at presentation of content it is important to design online interfaces with the concept of experience in mind. Mclellan (2000) surmises that educators need to shift their thinking from the notion of delivering instruction to staging educational experiences. Investigating the student perceptions and attitudes enables a better perspective of the educational experience.

The use of learning technologies varies tremendously in the purpose and practice (Ehrmann 1995). Our investigation drew on an instrument developed by Delvin (2002) for gathering student perceptions of teaching and learning which considers the following:
- past and present experiences of e-learning;
- student perceptions of the preferred style of learning;
- what makes a good e-learning experience;
- key aspects of the student experience; and
- expectations of learning and how this can inform course design and e-practice.

The student experience should be integral to and inform learning design.

Questions of implementation

Implementing e-learning forms an integral part of the University of Greenwich's philosophy of widening participation. Several questions remain to be answered, however. To what extent has the student experience of e-learning to date been evaluated? Further, how do student experiences compare across different Schools within the University? What lessons can be learnt from the student experience and how can this inform future e-learning design and implementation?

E-learning At Greenwich

E-learning has been employed across many Schools within the university. Although the university has an e-learning strategy, currently there is not a universal philosophy to designing and implementing e-learning. Different Schools are at different stages in applying e-learning to teaching pedagogy. It was felt it would be useful to compare student experiences of e-learning across different Schools that were at different stages of e-learning development. It was also thought useful to consider the undergraduate experience at the outset of study during the first year and at the completion of study during the third year.

The three Schools within the University of Greenwich selected for research were the School of Humanities, the School of Business and the School of Computing & Mathematical Sciences (CMS). Each was considered to be at a different stage in e-learning design and development and used different platforms. CMS used a tailor-made Virtual Learning Environment (VLE), Teachmat; Business had adapted School-wide use of WebCT and the School of Humanities had initiated use of WebCT but this was not School-wide and use was varied amongst departments and e-learning practitioners within the School.

Evaluation

Getting closer to the student experience was facilitated through an interpretive, phenomenological approach. The research project qualitative focus groups with 70 undergraduate students and explored the experiences of e-learning. Despite the differences across the schools, the issues arising from the student experience were very similar. For example:
- Experiences varied across courses within programmes;
- Students had very different starting points for their educational studies at university based on their diverse backgrounds;
- There was limited evidence of e-learning providing effective information exchange or knowledge construction, the focus being on provision of information rather than knowledge construction;
- There was evidence that technological skills used socially by students were not necessarily transferred across into their educational studies.

Conclusion

Examining the student experience of e-learning practice provides useful insight for future e-learning design. Lessons can be learned from the students, schools can share these experiences and work collaboratively towards better informed future learning design.

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The Designing for Learning e-learning@greenwich conference took place at the University of Greenwich in 2007. The fifth conference in the series, it brought together leading e-learning thinkers and practitioners from the UK and internationally.

Now for the first time is a publication that shares the important work being captured and disseminated at Greenwich in the form of post-conference reflections and abstracts.

Contributors reported upon the impact on learners and practitioners, as well as organisational aspects such as training and workforce modelling.

The conference touched on many themes, including:
how e-learning can create effective independent learners;
the use of repositories;
technology-based academic tools;
pedagogical planning design;
course re-design and curriculum re-engineering;
learning within Second Life.