

AN E-LEARNING COURSE ON E-LEARNING FOR STAFF IN HIGHER EDUCATION

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Abstract

In this paper we report on the development, delivery and evaluation of an e-learning course. Aimed at university staff undertaking a mandatory post-graduate qualification in higher education teaching, the course was designed to develop understanding of the concept of e-learning. We describe, with reference to the literature, how the course was designed and delivered via the institution's virtual learning environment and facilitated using an online learning moderation model based on Salmon (2004). Also discussed is how a cycle of evaluation has led to improvements in subsequent presentations of the course and general considerations for other institutions seeking to achieve similar aims.

Introduction

To meet government regulations requiring all new teaching staff in higher education to hold a relevant teaching qualification, Cranfield University has developed a Postgraduate Certificate in Learning, Teaching and Assessment in Higher Education (PGCLTAHE). The PGCLTAHE includes a module aimed at supporting staff in the development and implementation of educationally sound e-learning strategies and methods within the context of their own discipline. The authors were commissioned to design, develop and deliver this module as an online e-learning course to be delivered annually. As detailed in this paper, a ten-step process model was followed to design and develop the course. The pedagogic strategy adopted was that of using a mix of activities, access to resources, and moderated discussions. From the outset, it was decided that the module should act as an exemplar of an e-learning course, showing what could be achieved relying mostly on the formatting and activity tools available within the university's Blackboard virtual learning environment. This was to demonstrate to the learners that high-level technical skills are not necessary to create effective e-learning. Emphasis was placed on fostering learning through facilitated online group discussions associated with carefully sequenced activities. The facilitation model used was based on Salmon (2004) and used for two presentations of the module. The first was conducted over a two-week period while the second presentation of the same content was shortened to one week. At the end of both periods of online engagement students were asked to participate in a face-to-face workshop as the final activity. The workshop was used to collect feedback in order to evaluate how well the course met its aims. Changes and improvements to the second presentation of the module were based on the results of the first evaluation. Following the

second presentation further changes are planned to more closely integrate the activities of the e-learning module with those of the face-to-face programme throughout 2009.

This paper (i) describes the design, structure and content of the course before summarising some of the issues that arose during the first and second deliveries and (ii) discusses the feedback from the learners which indicates that, overall, the module has been positively received on both occasions and succeeded in changing some negative attitudes about what e-learning offers into positive ones. Finally, the paper summarises the outcomes of the evaluation studies and describes the improvements and changes to be introduced in future iterations.

A Ten-Step Model

When designing e-learning, the designer must understand and be able to apply various principles and processes throughout the design, development and delivery of a programme. These are broadly represented in the ten-step process model (Figure 1) the features of which are discussed elsewhere (see Cong & Scott, 2008).

Figure 1: Course design, development and delivery



Any of the above activities may take place in parallel. At any stage of the design process, the outcome may be revised in the light of experience as indicated by the anti-clockwise arrows. © Cranfield University 2007

(Source: Scott, 2006)

As can be seen, the design of quality e-learning materials requires knowledge and skills in a variety of areas. It is emphasised that these are not restricted to designing for online learning but are broadly applicable in any learning design context. The diagram merely outlines one particular model and, naturally, each of the steps shown has many more layers of detail about what is involved. The model is used to illustrate the point that where this or similarly rigorous models are applied to the design of learning materials and experiences in a range of situations, there is an increased likelihood of desired outcomes being achieved.

Our reason for using the above model in the development, delivery and evaluation of the e-learning module described in this paper was two-fold: (i) it is the approach we use in our professional practice, and (ii) it would provide an exemplar model for those learners undertaking the module. Indeed, in introducing an activity on good practice in designing e-learning courses we refer to Allen:

As you contemplate any e-learning development project, it's important to prepare for the complexity of the undertaking. Using a tried-and-true process will arm you well for both the expected and unexpected challenges, and bolster your confidence. And help you maintain your enthusiastic commitment to excellence (2006, p. 14).

During discussion of the model one of the participants, a lecturer with a computer science background, remarked that by replacing the phrase “e-learning” with “software” we would have an exact description of why so many large software/IT projects fail. Thus, he underlined the importance of adopting a principled approach.

Next, we describe the module's design structure. To present this in a coherent manner and as an example of how a design model might be applied, we use the phases shown in Figure 1 above.

Needs Analysis

As mentioned above, the requirement for the e-learning module came out of the UK government's directive that all new higher education teaching staff should hold a suitable professional teaching qualification. The PGCLTAHE already existed as a programme with an optional e-learning module. Under the direction of the Head of the Centre for Postgraduate Learning and Teaching the programme was being updated. The authors were requested to revise the e-learning module.

When there is a perceived need for a new or revised course, learning designers need to ask themselves questions which will identify who the learners are and what are the requirements, context and business case. We had already identified that the course would have to address the needs of the higher education institution. The learners would be faculty with varying lengths of service some of whom were likely to have little

acquaintance with learning technologies and some of whom may have little knowledge of educational theory with little motivation to engage with learning and teaching practice.

Through approaching and interviewing staff who had participated in previous presentations of the existing module a number of important points emerged:

- the need for scaffolding of learning,
- avoid 'swamping' with information,
- respond to asynchronous communications within 24 hours,
- maintain momentum/motivation,
- illustrate principles through practice,
- understand the learners' perspectives,
- interact with learners, and
- include a face-to-face element if possible.

Aims and Learning Outcomes

Adhering to our process model, we ensured that the course aims and learning outcomes were clearly stated from the outset. By doing so, we would not only improve how the course would be organised but, just as importantly, facilitate the learning process. As Fry, Ketteridge, and Marshall succinctly put it, "teaching involves helping students to know something not known before, it constitutes a process of change" (2003, p. 26). By making the intentions of the module explicit we would be orienting the learners to the subject and supporting understanding of their processes of change.

The aim of the module was for learners to be able to develop and implement educationally sound e-learning strategies and methods within the context of their discipline. This would be achieved through designing for and facilitating the intended learning outcomes drawn from the initial needs analysis:

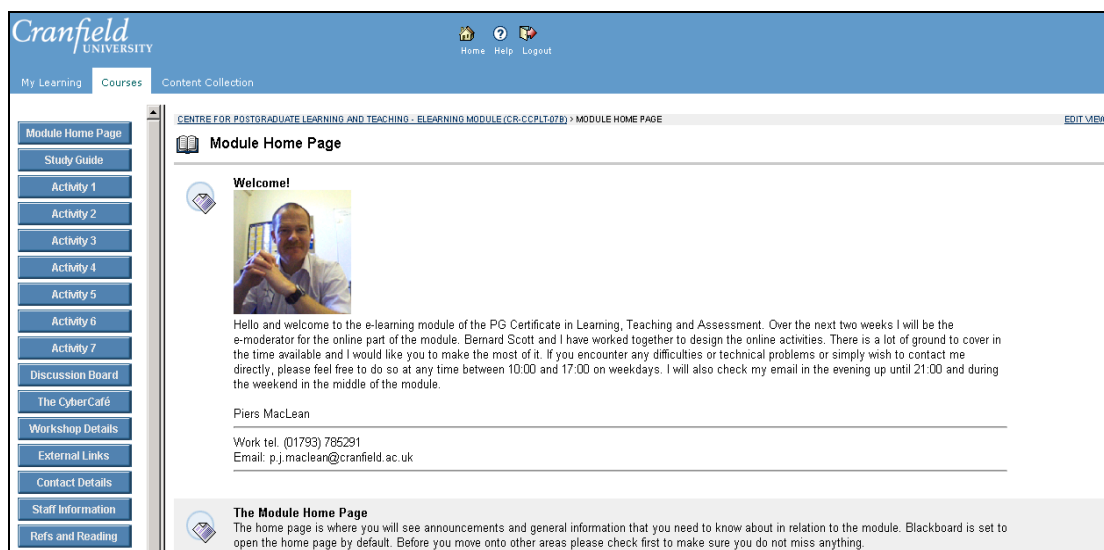
- plan, design and implement e-learning elements,
- articulate a robust e-learning strategy,
- support online students,
- use e-learning with conventional courses/modules,
- instigate and maintain student learning using Computer Mediated Communications (CMC), and
- evaluate the effectiveness of e-learning provision.

It must be remembered that the e-learning module represented only one of several modules within a complete postgraduate learning programme focused on learning, teaching and assessment. As such, many of the theories and principles of learning required by the participants would be covered in other modules.

Course Structure

A clearly structured and sequenced course ‘shell’ was designed within the institution’s Blackboard™ Virtual Learning Environment (VLE). Our ability to provide a flexible learning route that allowed for the learners’ preferences and adapted to their progress was constrained by the technology available. Figure 2 shows how we presented the course shell within the VLE.

Figure 2: Course shell



At all stages, access and navigation were supported by clear and consistent signposting of where a learner might be within the module structure and where they might go next. Expected actions or behaviours were made clear. Similarly, clear and consistent use of page layout and typography were also used to support access and navigation. To assist with signposting, and to tell learners about the sort of tasks they were going to engage in, a number of icons were used. Overuse of icons can be problematical in self-instructional materials (Lockwood, 1998) and for this reason we kept the number and type limited. Conventions for each of the icons were described in the course study guide.

Course Content

With only 6 hours of notional teaching time for the learners to complete the online component of the module, a strategy had to be designed to ensure that the course content remained relevant to the both the course aim and the contexts, interests and personal goals of the users. At the same time, we wanted to demonstrate how a dialogic constructivist approach using Conversation Theory (Scott, 2001) might be effectively deployed.

As part of a postgraduate programme the design would have to ensure that the learning was aimed at the right level. Learners would need to be provided with up-to-date and relevant materials presented coherently and comprehensibly. In this way, they would be able to explore the field of e-learning and learn how they might tackle developing their own materials and solve associated problems.

To support the learners in this, an appropriate overall workload distributed across up a period of 12 days was designed. Activities were organised in assimilable 'chunks' for self-study and advice on how and when the learners might undertake these was made available in the course study guide.

With respect to use of terminology and readability, full definitions of complex terms were provided and all text used was presented at an appropriate level of readability for online learning within a postgraduate programme. Alongside the course content a bibliography supplemented the numerous resources which had been incorporated in the activities. These were selected on the basis of their relevance to the subject of e-learning and potential for stimulating thought or discussion. Among the resources were several images selected to complement the topics being presented in the text. All necessary copyright permissions for images were clearly stated.

Learning Designs

At the core of the module were seven activities. Each activity addressed a particular learning outcome and had a specific learning design (see Table 1).

Table 1: Descriptive titles for learning activities

Acty	Title	Summary of learning outcomes for the activities
1	Who are we? (Allow at least 30 minutes for this Activity)	Become familiar with the Blackboard Virtual Learning Environment (VLE). You will have the opportunity to meet each other and share your experiences of e-learning or lack thereof.
2	What is e-Learning? (Allow at least 10 minutes for this Activity)	Think again about possible definitions for e-learning and look more closely at the meaning of the term. You will also consider what synonyms, if any, exist.
3	Online Seminar - Learning technology and you (Allow up to 2 hours for this Activity)	Consider learning technologies from both an existing point of view in the literature and your own developing perspective. You will have the opportunity to discuss these points of view with each other.
4	Communicating in a VLE	Appreciate the importance of one of the

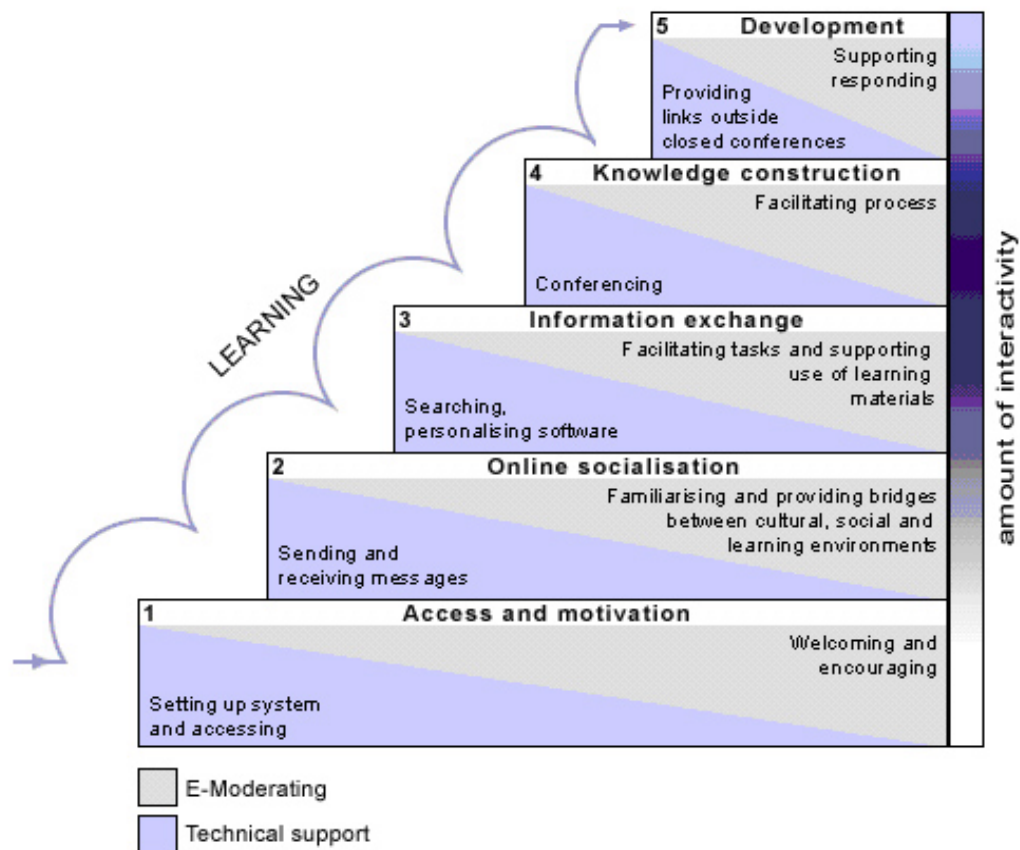
	(Allow at least 2 hours for this Activity)	many types of interaction in e-learning, conversation. You might discuss how useful conversations between learners are in supporting the learning process.
5	Finding and evaluating online resources (Allow at least 1 hour for this Activity)	Acquaint yourself with basic approaches to finding and evaluating online resources. You will have the opportunity to share your experiences of locating resources online with the group.
6	Good practice in designing e-learning courses (Allow at least 20 minutes for this Activity)	Consider the processes found in the design of online courses and compare them with your existing practice. You will have the opportunity to discuss your thoughts about good practice in designing e-learning.
7	Developing Quality Content (Allow at least 20 minutes for this Activity)	Begin to understand principles of designing interactive online learning materials.

We deliberately chose the term ‘activities’ rather than unit, lesson or topic, in order to emphasise to participants that learning is facilitated by having learners engage in constructive activities rather than, for example, engage passively with text.

As stated, one of our aims was to present a programme of learning using online materials which would demonstrate to the programme participants how they might approach the design of their own online materials and learning activities. Much of the media used was imagery selected to explain and enrich the predominantly text-based learning materials and also to motivate the learners. Only one exception was made: to present further layers of detail within the ten-step model shown above, an interactive graphic was created using Adobe Flash™ technology. None of the resources was used gratuitously and, where appropriate, they were referenced. The numerous hyperlinks to web-based resources were rigorously tested as were the internal hyperlinks to aspects of the course such as discussion boards, activities and the study guide.

The discussion boards were an essential part of the design. An early decision was made to exemplify how, by carefully scaffolded discursive activities, it was possible to design and facilitate achievement of learning outcomes. Salmon (2004) provides a principled model of how online learning can be facilitated through e-moderating (see Figure 3). For each stage, technical details are shown on the left and e-moderator tasks are shown on the right. The model was selected for its simplicity and the fact that it has proven successful in many formal education and other online learning contexts. It was also felt that, with the right training, it was one that the module participants would be able to readily adopt for their own use.

Figure 3: 5-stage model of learning in online communities

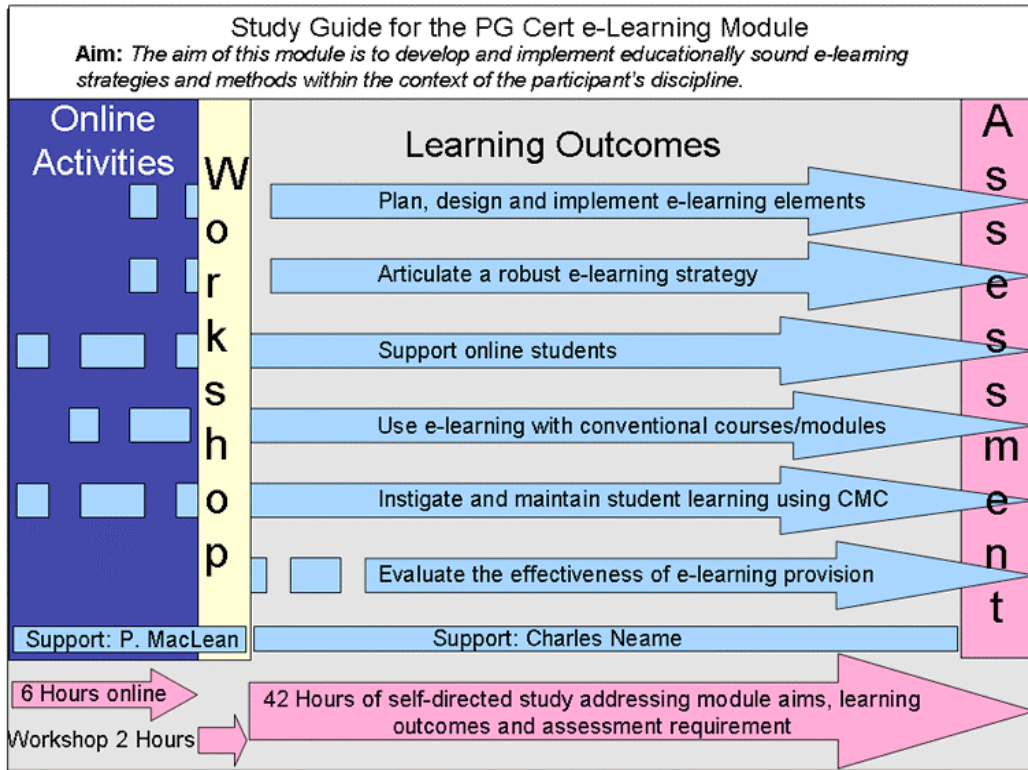


(Source: Salmon, 2004)

Supporting Students and Tutors

Most pre-joining administrative arrangements were carried out by the Centre for Postgraduate Learning and Teaching. However, once students logged into the VLE and located the course, they were presented with the Module Home Page. Using our own principles for induction and adhering to stage one of the above e-moderation model, the learners were met with a welcome message and instructions about navigation, accessing materials and generally using the course as presented within the VLE. Once oriented to the home page they were directed to the module Study Guide and more detailed information about course content and structure. Both the study guide and the home were used to support students and tutors with information about contact details, technical support, use of communications tools, course dates, and how to approach the module. Figure 4 showed how the online activities were to be supported by self-directed study and mapped to assessment.

Figure 4: Graphical representation of the module study guide



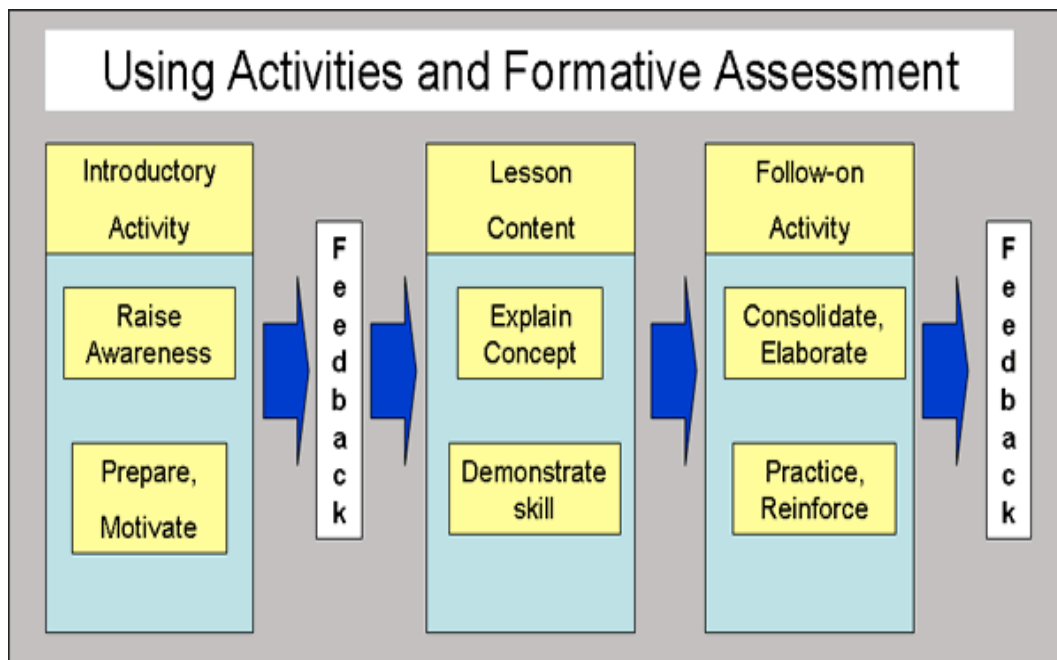
Assessment Strategies

It is useful, even at the level of a small chunk of learning, to think about the learning outcomes and the learning designs that we use so that students achieve them. Rowntree (1990) and Salmon (2002) provide guidance on how to make learning materials relevant and effective. Both authors emphasise the role of activities in ensuring that learning is effective and Rowntree urges us to always keep in mind the learners we are writing for — not as part of an audience but as individuals that we are tutoring one-to-one. The concept of the “tutorial in print” is equally relevant for e-learning. Individual learners can experience the equivalent of the tutorial in print online if these guidelines are applied to the design of online learning materials. Using these guidelines as an example, and having employed them ourselves, we hoped to encourage the module participants to consider the effectiveness of such an approach. These ideas of Rowntree’s are summarised in Figure 5.

Summative assessment for the module took the form a reflective/reflexive piece of written work showing that the learners could design and implement an e-learning process which met the requirements of their students as well as their own overall assessment portfolio for the PGCLTAHE and was educationally sound. Within the learning experience itself, opportunities for formative assessment were built in. These generally took the form of tutor and peer feedback. Formative assessment was also part of the

learning design within activities and provided feedback on how the learners approached tasks set.

Figure 5: Summary of the tutorial in print (after Rowntree, 1990)



Development and Implementation

Development of the module required explicit planning using the course design, development and delivery model described here and presented within the training materials. As with this approach, team work is an essential feature. Final implementation or delivery addressed issues of accessibility and ensuring the availability of technical support and help systems.

Evaluation

Evaluation of the first and second presentations was conducted using an online questionnaire. The questionnaire was designed to elicit what the participants liked and disliked about the module and any suggestions for how it might be improved. At the end of each module participants were also invited to attend a face-to-face workshop which included evaluation of the online course through group discussion. In accordance with our course design, development and delivery model described above, student and staff feedback gathered during the evaluation of each presentation was used to inform decisions about how the subsequent presentation might be improved.

From the responses received from the questionnaires and workshops, the course was considered to have been successful on both occasions. The learners reported that they particularly “liked being able to do the activities in their own time” and “fit them into my day as need be.” One user considered that the module “was a good demonstration of e-learning activities” and that “the tutor was very interactive.” The ‘availability and interaction’ of the tutor during each presentation appears to have been a significant factor in the success of the module from the learner’s perspective. The reader will recall that this was one of our own goals. The level and quality of the scaffolding of learning were also remarked upon positively in the questionnaire results and workshops.

Now a compulsory part of a restructured PGCTLAHE, the e-learning module was presented by the authors for a second time in September 2008. Prior to this, we made amendments based on the evaluation feedback. These included additional tasks involving more use of the VLE tools such as the ‘blog’ (web log). We also examined how to address the suggestion to “improve links between activities and [the] relevant discussion board.” A notable outcome of the evaluation of each presentation was agreement in the workshops about the way the adoption of e-learning within the institution might be encouraged. During the first workshop it was suggested that this could be done through maintaining dialogue about the subject across the institution:

We have to keep this dialogue going and draw a wider set of colleagues into it, so that over time the discussion about e-learning becomes as mainstream as the discussions about any aspect of the management and delivery of teaching and learning.
(Workshop participant)

Similar discussions arose during the workshop for the second presentation. However, although the participants appreciated that such dialogue was useful, many of them felt that real motivation for staff to adopt e-learning would only come about through active institutional level encouragement for staff to adopt it in their practice. Not all participants could see any advantage in using e-learning in their own teaching but those that could felt that the successful implementation of e-learning approaches would only work within a clearly defined framework and strategy.

As the course progressed, it became clear that the learners were undergoing changes in their attitudes towards e-learning. In the case of those to whom it was new, they were developing an understanding of what is a commonly misunderstood concept and beginning to see how technology *might* be used to enhance learning but only where its use is appropriate:

I think an e-learning environment works well in this context but used to think lesser of totally e-based excercises [sic] — my experience with this course has changed this however and I can see the benefit of this alternative approach, especially for part-time learners.
(Comment posted to Activity 6 discussion)

In a discussion supporting Activity 2 (What is e-Learning?), one participant made an insightful comment about the nature of technology and its relationship with learning and teaching:

This all suggests that the magic of e-learning is simply about understanding the function and workings of the technologies themselves, which is separate from the user's capabilities as a teacher. That's good news for technophobes, because it needn't threaten their fundamental teacher identity, as long as they are prepared to (a) understand the potential and limitations of the technologies as a platform for communicating messages and materials and (b) take the necessary driving lessons (like this one)!

Another participant responding to the evaluation questionnaire acknowledged that she now realised "the issue of e-learning is huge — as are the possible benefits and risks of using it." This comment reflected the degree to which the module had successfully, in one case at least, increased understanding of what the use of e-learning entails.

From the evaluation results it was seen that for most of the participants working through the module was a positive experience. Overall, they reported that they found the variety of topics interesting, well presented and very well structured. Some particularly liked the choice of topics and the manner in which they were presented because they were then able to see how different approaches could be employed. These comments reflected our intention for the module to be an exemplar of techniques which staff might adopt in their own teaching, particularly the use of CMC:

I have learnt a lot this week and feel much happier about using and promoting the use of our own departmental discussion boards in Blackboard. They are currently not used.
(Comment from the results of the second presentation evaluation questionnaire.)

The evaluation results contained many positive comments and helpful suggestions for future improvements. Similarly, some participants stated what they did not like or find useful. These remarks were also helpful in planning for the third presentation of the module in 2009. In the next section, we discuss how this feedback has shaped our intentions and examine how the module might evolve in the longer term.

Further Improvements and Development

In shortening the module to one week of facilitated activities we put too much additional pressure on already busy participants. One of the most common suggestions for improvement was for the workshop to be held over a longer period with tutor support. All learners are different and work in a variety of ways at varying rates. A participant in the shortened module remarked that they thought "there was time for more material" while also recognising that such a view "may be unpopular." This individual also paid attention

to the study guide and completed all the sections within the times suggested and reported that the course was enjoyable and of value. Based on these and other comments, an aspect of the administration of the activities will be to reinforce the need for participants to follow the study guide and learn to stay within the recommended bounds when undertaking online programmes. This aspect of how learners organise themselves and use their time in accordance with recommendations will be evaluated.

One learner reported liking “nothing” about the module, thought that it “could have been covered in a short lecture” and suggested that the activities could be improved if we “delete them.” The questionnaire responses were made anonymously but it might be fair to suppose that this respondent was the same participant who also made it clear in the CMC forums that they were not gaining anything from the module and would frequently post disruptive or ‘off topic’ messages. In turn, this affected the experience of another participant who remarked in the questionnaire:

Sometimes it felt like I was taking part in a forum for ranting. This showed me that e-learning (like traditional face-to-face) teaching environment can be dominated by some rather than open to all.

(Comment from the results of the second presentation evaluation questionnaire.)

‘Netiquette’ or ‘network etiquette’ has not been formally introduced as part of the module but naturally occurs within conversations about communicating online. It is apparent that issues of how to communicate appropriately and constructively need to be addressed at an early stage. A respondent suggested that communications need closer moderation and a “clear positioning” of what is and is not acceptable in forums. A part of this ‘positioning’ will be a response to requests for closer management of the length of postings to make them briefer and more digestible. Although the expected length of messages posted to forums is given, more needs to be done to ensure that participants abide by these recommendations and also the requirement to stay “on topic.” Furthermore, a better way of managing forums and discussion threads within the Blackboard environment will greatly improve access to their contents.

Presentation of the module will be very different in 2009. Instead of an allotted period of one or two weeks to complete the activities, the module content will be made available throughout the year. Activities are to be combined with face-to-face workshops and tutor support offered for a two-day period. This new approach is intended to provide more flexibility for participants allowing them more opportunity to engage with the materials and each other in online discussions. Additionally, they will have more time to experiment with a wider range of tools within the VLE including wikis and blogs. The use of blogs as reflective journals will also be included in the face-to-face workshop aimed at developing reflective practice. Our intention with this approach is that participants will become more familiar with an extended range of learning technologies which they might consider using in their own work.

Additional work will also be required by the module tutors to include more formative assessment and feedback in the activities. Currently, it is felt that this is lacking in the later stages of the module.

A longer term aspiration is the development of a blended learning version of the whole of the PGCTLAHE corresponding precisely to the aims and intended learning outcomes of the current face-to-face programme. Using topic maps to support non-linear navigation through effective learning (Scott & Johnson, 2005), staff would be able to map their learning paths and choose whether to work asynchronously online or attend the relevant workshop — or even do both. A single component fulfilling the original intention of the e-learning module, i.e., to introduce staff to online learning, would be compulsory and conducted entirely online. Such an approach would amplify the effects of the module described above giving staff more flexibility in how they undertake the programme while for those who elect for more of the online activities giving them the necessary experience and skills to work more effectively in a world which is seeing increasing reliance upon learning technologies to support higher education.

Concluding Comments

By no means perfect but far from failure in meeting its intended outcomes, both iterations of the module appear to have been an interesting and useful experience for the learners. We also learned much from our own interactions with them. Not least was reinforcement of the need for the institution to increase support for e-learning adopters. While supporting the design, development and delivery of online learning is the function of our department, we recognise that the introduction and adoption of technology to enhance learning takes time and must be encouraged at every opportunity, however small. Part of this encouragement takes the form of showing staff how readily they might embrace e-learning. Taking small steps and leading by example while giving and receiving feedback in collaborative and constructive dialogue from which all can learn is, we have found, a practical and productive approach.

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