City, University of London Institutional Repository

'3 stars for effort' – Designing pedagogic models for online learning delivery

Dr Susannah Quinsee
Head of e-Learning/Associate Director of Library Information Services
City University
Northampton Square
London. EC1V OHB
Email: s.quinsee@city.ac.uk

Abstract

This paper evaluates the construction of a range of online module templates which can be utilised to facilitate the design and delivery of e-learning courses. Three models of online learning design are considered: Mason's wrap around model (1998); Lauriallard's conversational framework (2002) and an adaptation of Beer's viable systems model (1999), in terms of their usefulness and applicability to online learning design. The paper then argues that each of these models provides a theoretical framework but does not go far enough in terms of describing the reality of online course design in online learning environments. Using one department at City University as a case study, this paper describes the process of designing a series of templates for online courses. By using a pedagogic framework to underpin the creation of these templates, staff are given the freedom to experiment with online tools within specific areas yet are not overwhelmed by the technology. They can begin to develop new models of teaching and learning, by enhancing the quality of their face-to-face teaching with the support of using online tools.

Keywords

Curriculum design, staff development, virtual/managed learning environments, online learning, pedagogic e-learning models, e-learning theory, institutional change

1. Introduction

Designing online learning activities has been the focus of a considerable amount of critical debate – should we attempt to mirror classroom activities online or should we look to creating new teaching and learning methodologies? When learning materials and methods are moved into the online environment it appears to engender a new set of debates and challenges. Palloff and Pratt (2001) maintain that 'teaching in the cyberspace classroom requires that we move beyond traditional models of pedagogy into new practices that are more facilitative'. They argue that 'teaching in cyberspace involves much more than simply taking old "tried and tested" models of pedagogy and transferring them to a different medium'. It cannot be denied that online learning often requires a re-visioning of current teaching practices. Merely replicating a face-to-face teaching methodology when attempting to engage online learners fails to exploit the potentials of the online medium. As Alexander and Boud (2001) argue 'much of the early use of the Internet in teaching has been to automate existing practices in a way that appears "up-to-date" but which is essentially more time-consuming and expensive'. This can have a phenomenally negative impact on the adoption and implementation of online learning within Higher Education institutions in particular. Yet, Alexander and Boud acknowledge that 'the online learning environment is just another physical environment' and to regard it as 'just another space for learning does not deny its potential to reconceptualize what is possible in teaching and learning'. They go on to argue the case for the 'learning by experience' approach which places learner interaction at the heart of the learning process in an attempt to define a pedagogic methodology which moves beyond a transmission model for teaching online. Their arguments for conferencing, role plays and simulations, though, may actually not be very far

removed from describing what many lecturers and teachers are already doing in the face-to-face classroom. Is this really outlining a new pedagogic approach?

That is not to say that moving into the online arena should not make us as educators re-evaluate our fundamental teaching philosophies and principles. Nevertheless this needs to be done extremely carefully. What we want to avoid is discarding all our current practice when we begin to teach online. In addition, introducing radical new pedagogic styles associated with e-learning can be threatening to staff who regard the introduction of technology into the curriculum as an encroachment into their private and 'craft' based methodologies to learning and teaching. Martin Oliver (2003) has written about the changes to academic roles that are often accompanied by the wide-scale introduction of learning technologies. Where once an academic may have created their learning materials in isolation and then delivered them in the relative privacy of the seminar, tutorial or lecture theatre this can be dramatically changed in the online arena. The academic may be expected to work closely with a learning technologist or instructional designer who may even go so far as to re-write or recreate materials for online dissemination. New quality procedures may be enforced which require checking of online materials before learners receive access. The academics may be encouraged to work in cross-discipline teams to create learning and teaching materials. Whilst there may not be anything inherently wrong with these new developments, for many academic staff such an approach is an anathema to the way that they usually undertake academic teaching and research activities. Therefore, whilst in principle they may object little to the introduction of online learning and appreciate its potentials, they may voice vehement objections to the associated changes in working practices.

In addition there is often a strong feeling that pedagogic demands are ignored in the pursuit of technological ideals and that software stifles academic freedom. The argument that the technology is driving the pedagogy is a frequently rehearsed one and one that is often rather facetious or misleading. Conversely, academics may feel overwhelmed by the technology and not know how best to approach this form of teaching. As Derek Rowntree (1997) observes 'much of the new technology comes with a learning curve that frightens both teachers and learners'. The widespread automation of campus processes that often comes hand-in-hand with the introduction of online learning can be both an advantage and a cause of increased frustration. Rowntree comments that if 'the computers and support systems are geared up to enrol hundreds of learners once a year, we may be told they can't handle a course that would enrol small numbers or learners one-off as soon as they want to start'. Such seeming inadequacies of technology to embrace non-standard academic practices can result in much resistance to the adoption and utilisation of online learning by many academics.

Perhaps even more problematically by regarding e-learning as something special and unique we may alienate it from mainstream learning and teaching activities. As Martin Oliver (2004) has pertinently observed 'if you see e-learning as different by creating special support services within institutions and dedicating special funding to it [...] don't expect everyone to engage, because it's not normal teaching ...and recognise that you have just fragmented support for staff'.

Therefore, although it cannot be denied that the introduction of e-learning comes with a number of major changes – not only in the way that academics teach or students learn – but also in the way in which organisations manage and administer teaching and learning activities, the connections with traditional methods of learning needs to be recognised. It is

often the changing pedagogies required to teach online that are made the focus for academics and educational developers alike. However, as we have seen above, some of these allegedly 'new' methodologies are not really new at all, rather they are repackaging of existing techniques. Interestingly, Terry Mayes (2001) argues that instead of focusing on the pedagogy we should be looking at the organisational structures that underpin our learning and teaching activities:

> It is arguable that real change in the way education is provided […] need not be driven by technologies at all, nor even by pedagogies. Rather it depends on developing novel forms of organizational processes and structures while carefully *maintaining* and *enhancing* the pedagogical principles that remain fundamental to almost all forms of learning […] By this view it is not new pedagogies that we need, but new ways of providing existing pedagogy efficiently and flexibly. This may provide the real challenge for online learning.

Mayes argument is extremely persuasive and enables us to move away from debates about pedagogy and technology. It also is more palatable for many academic staff as it lays much of the success of online learning onto the way which is online programmes are constructed (indeed Mayes goes onto argue for a constructivist approach which is less useful here) – enabling the academic staff member to consult with expert educational technologists and designers without feeling that their academic integrity is being questioned.

Such an approach which focuses on the design of online materials and the underpinning organisational structures has been adopted at City University, London and is the focus of this paper. It outlines the design of a range of online module templates – where module represents an element within a degree programme, often referred to as 'unit' –which facilitate the design and delivery of online learning courses. Before we consider these templates in more detail it is worth considering some well developed and recognised models of online learning to illustrate the pedagogic underpinning of the models at City and to evaluate the limitations of these other approaches.

2. Theoretical models of online learning

There are three models of online learning design which it is useful to expound in more detail here – Mason (1998), Laurillard (2000) and Beer and Britain (1999). Each of these models attempts to explain the stages of creating online learning materials and interaction, but they come with some potential challenges when practically applied.

2.1 Mason's 3 stage model
Robin Mason's three stage model from 1998 is widely recognised as a means of elucidating the continuum of learning design. Mason's 'rather simple framework' is useful because it attempts to demystify 'the term "online course"' by encompassing both those programmes which use the Internet as a supplementary tool and those that use electronic resources more comprehensively. Coming from a distance learning background, Mason claims, has influenced her approach to conceptualising online courses. She identifies three categories:

- **Content + support**
This basic stage distinguishes between those materials which are available online, for example via web pages, and related support, which may be electronic but is not embedded within the materials. Mason notes that this 'model supports the notion of relatively

unchanging content materials which can be tutored by other teachers than the content authors'. Here e-learning materials are used to supplement face-to-face teaching but are not the core of the course, probably representing less than twenty percent of the overall contact time.

- **Wrap around model**

Here online resources are also used to supplement traditional teaching methods but in a more integrated fashion. Approximately fifty percent of material may be available online as Mason describes 'this model tends to favour a resource-based approach to learning, giving more freedom and responsibility to the students to interpret the course for themselves'. Therefore, the tutor is more involved in the production and maintenance of the online resources.

- **Integrated model**

As the title suggests this final model can take place wholly online. Learners are actively encouraged to participate in online activities which make up a core element of the learning experience. Mason explains that here 'the heart of the course takes place online through discussion, accessing and processing information and carrying out tasks. The course contents are fluid and dynamic as they are largely determined by the individual and group activity.' Those familiar with constructivist educational theory can see that this final model is sympathetic to this approach. Interestingly Mason goes on to comment that in this last stage the boundaries between content and support are 'dissolved' with the onus of responsibility for this being passed to the community of learners as a whole.

Mason's three staged model is a useful and simple way of categorising courses and does provide a clear continuum of development for academic staff interested in creating online resources. However, there is little guidance in the model as to how to proceed from one stage to another or what tools and methods may work well at each stage. In addition, for academic staff new to this kind of teaching there are still threats and challenges at each stage. For example, the first level – content + support – implies that the author and teacher of the material may be fulfilled by different roles. As we have seen above this can represent a significant threat to many academic staff. Although the role of the learner is referred to throughout it is not completely clear how they should be engaging at each level. Diana Laurillard's 'conversational framework' is a much fuller explanation of the process of engagement and communication between learners and teachers.

2.2 Laurillard's Conversational Framework

Laurillard's theory – originally outlined in her influential work *Rethinking University Teaching* – is based upon the notion that knowledge acquisition, learning and teaching are predominantly communicative activities. She moves the ideas expounded in constructivism to argue that the teacher does play a key role in shaping and informing the learners of the knowledge required and is pivotal to the communicative or conversational process. For Laurillard teaching is 'a rhetorical activity: it is meditative learning, allowing students to acquire knowledge of someone else's way of experiencing the world'. However, this does not mean that the student is a passive agent in this process. Instead, the student is key to the interaction, but firstly the teacher must establish the boundaries of the learner's knowledge and challenge 'misconceptions'.

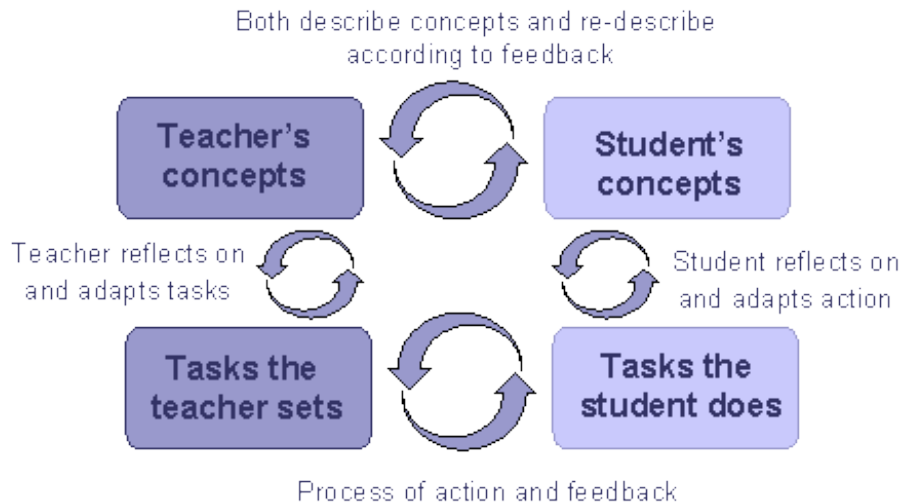Figure one below illustrates how the model works in theory:

Figure 1: Laurillard's Conversational Framework

The model illustrates that the interaction or 'conversation' is categorised by a constant process of reflection and negotiation between student and teacher. Within the online environment, this process of conversation can become more transparent and successful. Through providing access to content online and engaging the students in reflective exercises submitted through an online environment, students and teachers have access to greater interaction. Laurillard argues that although these interactions may take place within the face-to-face environment they are often more spontaneous and less well planned or even transparent. In her model for online learning these perhaps serendipitous interactions are categorised and defined in order to present a more rounded view of online interaction and potential for learning.

This is a particularly refreshing approach as often online learning is seen as stifling or restricting interaction between teacher and learner. Laurillard's model in many ways merely replicates what occurs within traditional teaching environments, but the strength is that she highlights those elements that make traditional teaching successful and describes a means of capturing this online. As anyone who has taught online knows, the problem is, however, that encouraging online interaction is much more difficult and time intensive than in the face-to-face environment. This model does provide a useful framework to make the transition from face-to-face to online but it does not make so much of an allowance for the differences within the online environment. Although I argued above that we should not stress to an extreme the 'distinctiveness' of online learning, there is a need to acknowledge the potential features and challenges that these bring.

2.3 Beer's Viable Systems Model adapted by Britain

The final model discussed here was developed by Stafford Beer in 1981 and then later adapted by Sandy Britain in 1999. As Britain maintains this model clearly illustrates the change process associated with e-learning: 'when one decides to change one element in a system (such as the teaching and learning process by introducing new software), it is necessary to consider the impact on other elements of the system'.

As outlined in figure two below Beers' model represents a much fuller approach to the impact of technology on the learning process. Rather than regarding learning and teaching activities occurring in isolation he outlines how changing part of the process affect the organisation as a whole. The use of this model, particularly in Britain's work indicates the changing nature of online learning implementation and adoption. No longer just the domain

of a few 'keenies' within an organisation, most UK universities have now adopted a managed or virtual learning environment for the institution and have an implementation and/or e-learning strategy to manage the adoption process. Therefore, more staff are being encouraged and persuaded (or even compelled) to use online learning which impacts on process across the whole institution.
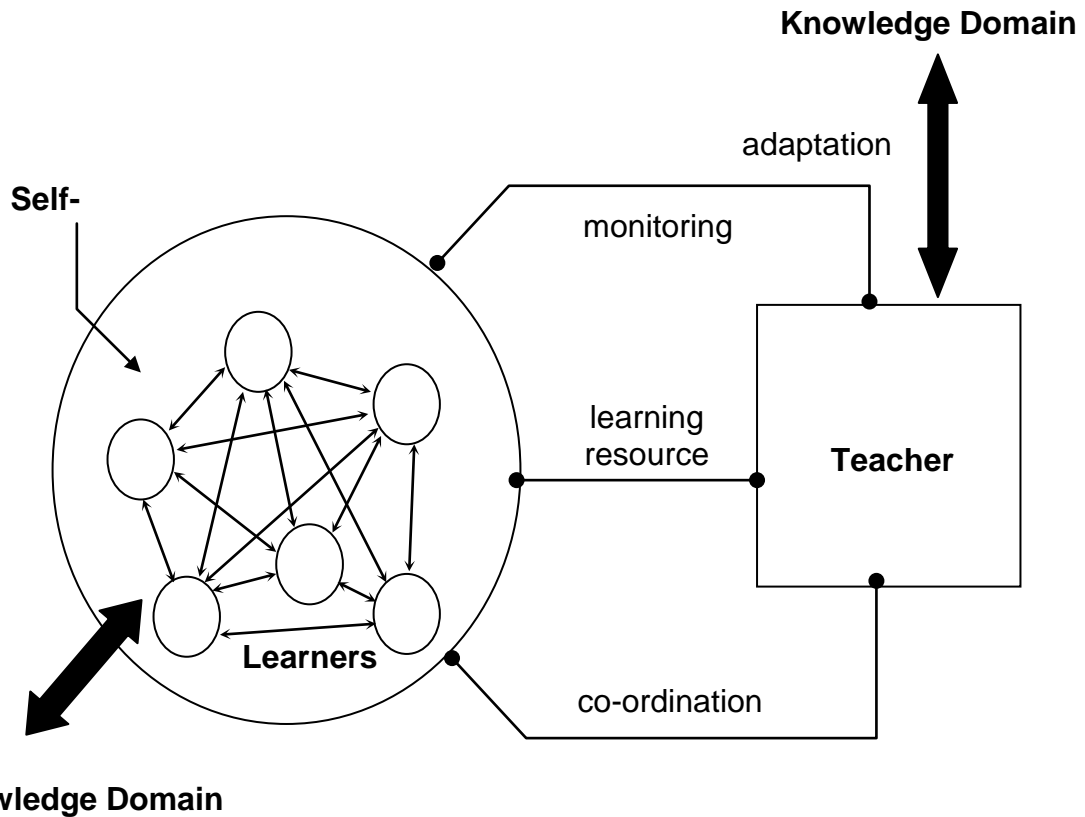

Figure two: Beer's Viable Systems Model adapted by Britain

It is this institutional approach which is of most interest here. Whilst the other models we looked at considered the relationship between learner and teacher, other processes are brought into play in this model. There are elements of constructivist thinking here in the idea that learners negotiate roles with their teachers and lecturers and also of Laurillard's conversational viewpoint in the manner in which learners and teachers interact to organise their learning. The problem with this model is that in its complexity some of the practicalities of learning design can be lost. It almost becomes too abstract in its representation of the educational process and can in turn be alienating for academic staff attempting to use this medium.

Each of these models servers a slightly different purpose and attempts to outline the learning process from an alternative perspective. Mason's clear developmental framework acts as a useful starting point for academic staff, Laurillard's emphasis on interaction is a pivotal part of any educational programme (whether face-to-face or online) and Beer/Britain's model illustrates the wider impact of online learning on the educational process as a whole. Taking elements from each of these models enabled the design of a series of online learning templates as City University which facilitated the adoption of online learning and the ease of use for both staff and students. It is to this design process I shall now turn in more detail.

3. The 3* City model

In 2000, the Department of Information Science at City University began to use online learning in a concerted way with the introduction of a Masters degree programme in Geographic Information to be taught to both face-to-face and distance students simultaneously. The dual mode of teaching caused some challenges in the design and development of the material but it was felt that it was important to keep both cohorts together in order to facilitate peer support and the creation of an online community. In addition, a number of modules were shared with students on other Masters degree programmes within the Department. These students, although studying face-to-face, were also given access to the online learning resources in order to enhance and supplement their learning.

The interest and spread of online learning in the Department was rapid and by 2001 all modules had an online element to them. In addition, central resources were established for students – a resource centre for all students within the Department and online spaces for each degree programme taught. There are a number of reasons behind the rapid uptake of online learning within this Department. Firstly, Information Science is a solely postgraduate department and many students attend courses on a day release or part time basis. This meant that they soon appreciated the flexibility and accessibility of online resources available through the virtual learning environment. Secondly, as students begun to use the online facilities more frequently they placed pressure on academic staff to increase the materials available to them. This led to more resources being added to the environment. Thirdly many staff within the Department were interested in developing online materials but had not had the support or resources to do so before and thus using a virtual learning environment gave them an easy means of creating online resources. Fourthly and finally, a new role was created, that of Course Resources Manager, to oversee and co-ordinate the design and development of the online materials, this enabled consistency but also the promotion of online and support for both staff and students.

However, by the end of 2001 it became clear that although all modules were ostensibly available online there were significant differences in the content and tools available for the students and the expectations place on staff. Some modules had little content accessible and were designed only to disseminate key pieces of information whereas other modules were accessible for entirely online provision and distance learning. A system of categorising the modules, which is based upon those principles expounded in the various theories above, was developed in September 2002. Three types of modules were identified and templates were created to differentiate each type clearly for online learners – a star system was used by the module name to indicate what sort of module it was. Particular tools were also limited to each level and these are outlined in more detail below.

3.1 Basic communication model – 1*

The aim of this basic level was to provide a one way flow of communication from the lecturers, administrative and support staff to the students. Frequently the lecturer would have very little to do with the module but would provide information to administrative and support staff to be placed within the module, for example notices on the discussion board. The module also contained an un-moderated discussion board and basic information on the module syllabus. Students were encouraged to contact each other and discuss the module on the discussion board but independently of the lecturer. There were very few instances of this type of module and it was only really used for external or visiting lecturers.

3.2 Intermediate communication and content model – 2**

This model stands halfway between Masons' content + support and wrap around categorisations of online programmes. Here students access to a range of content – this was usually handouts from the lectures, but could also be slides and more detailed lecture materials. In addition, there was a moderated discussion board and all coursework was submitted and marked online through the assignment dropbox.

Here, greater interaction is encouraged between the lecturer and student. This level of module contains some of the elements of Laurillard's conversational model but not all the interaction takes place online. Communication is along a two way process and students receive feedback on assignments and discussion postings online. Students are expected to attend face-to-face lectures and use the online materials to supplement their learning. A large majority of the modules fitted into this category.

3.3 Advanced and integrated model – 3***

In this final model, all interaction can be undertaken online. This level of module was originally designed for distance learners only but was also used by face-to-face students. Here, not only is interaction between the lecturer and student actively encouraged but also amongst the students via peer-support and group assessments. Various forms of assessment are presented here including online tests and self assessment. Lecturers may organise specific chat room events to facilitate the discussion of complex ideas synchronously. Again feedback is available via discussion boards and assignments dropboxes but also students can feedback on each other's work via the group work facilities.

A large number of modules also fitted into this category. Content was given online in its entirety so students could study the module on a flexible basis. Many students still attended face-to-face workshops when they wished to gain further interaction from the tutors. The model here enables some construction of learning but more importantly relies on a community of learners bringing a diverse skill set and experience base to inform the acquisition and development of knowledge.

3.4 Advantages of the 3*** approach

This approach was developed for a number of reasons. Firstly, it provided clear guidance for students on how to manage their studies and what was expected on them when learning online. They were able to understand which modules they needed to attend on a regular basis and which would be undertaken using online resources. Managing expectations is a key aspect of online learning and one which was a significant driver in adopting this approach. At induction students were introduced to the module types and the different tool usage explained to them. Secondly, it enabled more effective support for staff. Guidelines were already in place for the production of materials which specified the standard and timeline for release to students. By introducing this system it was clear to staff what skills they needed to teach at certain levels and also facilitate a more gradual adoption of online learning. Staff who were keen to use the medium but did not have the resources or skill set could still engage with students online at level two. This more gradual encouragement of the uptake of online teaching managed to bypass some of the threats outlined in section one above where staff feared about the changes to their roles with the advent of the technology. Thirdly, it provided a mechanism of quality assurance for the materials. If staff were able to enhance their materials to distance learning standard then they could teach at this level. Alternatively some staff produced a wide variety of online resources but did not wish to produce content for distance learners but will still able to produce quality online learning via the second level.

Quality checks and evaluation mechanisms were built into each type of module in order to encourage feedback from both students and staff. Fourthly it provided consistency across the Department. Not just in the tools available but also in the look and feel of the design of the modules and the materials contained within them. Again this was considered important for enhancing the students' learning experience and assisting with managing their expectations. The module structure was replicated across the online environment to facilitate ease of use. Fifthly the tool based approach but in different contexts enabled the pedagogy versus technology arguments to be harmonised. The tools available drove the module design up to a point but then depending upon the level or context their usage was defined by pedagogic rationale. This enabled staff and students to feel more comfortable using certain tools and ensure that technology was utilised appropriately. Finally, this structure encouraged innovation. Although establishing a system like this may be seen to stifle innovation it actually had the reverse effect. It gave staff the confidence to develop materials more appropriately to the types of students they were teaching and to move from one level to another. They could see a clear development path for the development of these materials and therefore often utilise tools in an innovative manner within the particular level in which they were working.

4. Conclusion and future development

Overall the development of this 3*** approach within the Department of Information Science was a success. This model, which clearly has elements of both Laurillard's conversational model and Mason's classification system, provided a clear pedagogic framework for the development of online learning for both staff and students alike. The model goes further than Mason's classifications at an early stage with integration occurring at the second level. In addition it attempts to include opportunities for interaction and creation of learning throughout so apply Laurillard's approach more fully. Finally this model had significant impact on the administrative and support processes of the Department. Not only were these staff brought into the learning environment, thereby engaging in the learning experience more fully throughout the three levels, but the management of the academic process was also altered. For examples, all coursework was submitted online engendering a rewriting of assessment submission and marking procedures. New procedures and systems were created for the monitoring and tracking of students studying solely online and for the operation of online quizzes and other types of assessment. This appreciation of the impact of online learning on the whole of the Department was a crucial element in the success of this model and illustrates an appreciation of the Beer/Britain approach. Without an understanding of how learning and teaching activities operate within a much wider context the introduction of this model would have been much less successful.

However, there are some problems with the broadness of the levels here and the large differences between progressing materials from a one star to a two star module and then lastly to a three star, particularly in terms of resources. In addition, there is very little held in the level one modules and the usefulness of these is open to question. It is now planned to adopt this model centrally across the University to help manage the staff development and student expectations involved in rolling out the University's managed learning environment (MLE). Staff currently using the institutional MLE have expressed a wish to understand more fully the application of certain tools within specific contexts and how they can progress their knowledge and confidence with online learning to a higher level. In addition, it is not always clear to students what is expected of them when they have access to these resources. As the University now has a dedicated e-Learning Unit to support both staff and students this

wide-scale adoption of this model should be possible. It has been successful in bridging the gap between face-to-face and online teaching methods by embracing the similarities and promoting innovation and difference. This model allows staff to focus on where the value of their learning and teaching activities lie and decide where and how to use online learning to enhance this.

5. References

Alexander, Shirley and David Boud (2001), "Learners still learn from experience when online" in *Teaching and Learning Online: Pedagogies for New Technologies*, John Stephenson (Ed), Kogan Page, London, pp.4-5

Britain, Sandy and Oleg Liber (1999) "Framework for Pedagogical Evaluation of Virtual Learning Environments", [online], JISC, www.jisc.ac.uk/uploaded_documents/jtap-041.doc

Laurillard, Diana (2002) *Rethinking university teaching* (2nd edition), Routledge Falmer, London

Mason, Robin (1998), "Models of online courses'", [online], ALN vol 2 (2), www.sloan-c.org/publications/magazine/v2n2/mason.asp

Mayes, Terry (2001), "Learning technology and learning relationships" in *Teaching and Learning Online: Pedagogies for New Technologies*, John Stephenson (Ed), Kogan Page, London, p.17

Oliver, Martin (2003), "Supporting academics through institutional change: what will the impact of sustainable e-learning be on staff roles", [online], LTSN, www.ltsn.ac.uk/application.asp?app=resources.asp&process=full_record&section=generic&id=289

Oliver, Martin (2004), "What does it mean to embed e-learning?", [presentation], City University, London

Palloff, Rena M. and Keith Pratt (2001), *Lessons from the Cyberspace Classroom: The Realities of Online Teaching*, Jossey-Bass, San Francisco, p.20

Rowntree, Derek (1997), *Making Materials-Based Learning Work*, Kogan Page, London, pp.100-112

UMIST (2004) "LT Success Factors" [online], UMIST, www2.umist.ac.uk/isd/lwt/effects/course/session2/fxi00-2/sld013.htm