

EXPLORING READINESS
FOR ONLINE LEARNING

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Abstract

This research set out to discover why some Higher Education (HE) students adapted very quickly to online environments and showed excellent learning behaviours and outcomes, while others found many barriers to the same activity. Given the rapid spread of virtual learning environments (VLEs) in HE Institutions, HE teachers need clear ideas about how to prepare and support learners in these environments. If individual differences among students could be identified, which affected “readiness” for learning online, then this information could be used to develop appropriate support and prevent such differences working to disadvantage groups of students.

The project explored the perspectives of a group of HE teachers who could speak from experience as “early adopters” of VLEs for pedagogic purposes, in order to discuss the “readiness” of students for learning in an online context. Research questions focussed on how teachers could manage transition and integration of online technologies within HE, and how they could identify variations in students’ approaches to the technologies and mediate the less successful ones.

A grounded analysis method was applied to transcripts of interviews with HE teachers with experience and enthusiasm for integrating online and face-to-face teaching and learning. The “constant comparative” method was used to fragment the data and develop categories of ideas in relation to the research questions.

The findings confirmed differences between traditional and online teaching and learning, affecting the approach of both teacher and student, but gave no support to the concept of “readiness”. Conclusions focussed on the process of preparing students for learning with online technologies. Further outcomes related to the changing teacher’s role and the impact of teachers’ beliefs on the design and integration of online technologies. Detailed suggestions were produced for appropriate learner induction to enable a more positive engagement with online technologies. The potential plasticity of the online learning space is shown to offer opportunities for supporting diverse learning approaches.

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This thesis is dedicated to my father, Alan Geoffrey Lyndon Watkins, who died in 2004. An optimist, learner and problem solver, he mastered word processing, electronic spreadsheets, desktop publishing, email and text messaging for the first time in his seventies.

Declaration

I declare that the research contained in this thesis, unless otherwise formally indicated within the text, is the original work of the author. The thesis has not been previously submitted to this or any other university for a degree, and does not incorporate any material already submitted for a degree.

Signed

Date

Chapter 1 Introduction and background

Why address this issue?

" Without asking hard questions about learning, technology remains an unguided missile."

(Ehrmann 1995)

It seems impossible to explore the realm of online learning environments in Higher Education without encountering a plethora of pathways leading to broader debates. These debates involve theories of learning, learning in Higher Education, adult learning, motivation to learn, self-directed learning, cognitive, behavioural and constructivist theoretical frameworks and many more. University teachers speak readily about learning styles and self-directed or self-managed learning, and debate the value of explicit learning outcomes (Hussey and Smith 2002) or lament the passing (in many post 1992 universities at least) of small tutorial groups and wide student reading. Students, too, articulate strong views about what learning at university is and should be, what value should be delivered by university teachers, and the levels of support and commitment they expect from staff.

These debates and personal teaching philosophies can be dismissive of the use of Virtual Learning Environments (VLEs) and Learning Management Systems (LMSs), as tangential to the business of university learning. The Virtual Learning Environment is seen by some (teachers and students) as a useful resource for finding lost information, an administrative communications channel and a repository for lecture notes. My professional practice suggests that the issue of using the VLE for learning can excite strong views among teachers and learners. Why do we need another medium for learning, when there are time-honoured traditional media and activities in any university focussed on lectures, seminars and tutorials, physical libraries and classrooms? At least in these spaces and events, both learners and teachers understand how to behave and have the luxury of long-held expectations, which often go unchallenged. Surely technology is best for distance learning, where student and teacher are less likely to meet face-to-face? A logical extension of this argument would challenge the possibility and potential of learning in an online environment. Some of my students and colleagues would support this view.

I see my students approaching their online resources and environment in a range of ways: some are immediately able to touch keyboard and fly, others use every excuse in the book to avoid contact with the online enemy, and still others might be described as cautious online explorers, prepared to try the technology, but varying in the speed at which they drop out or move to a lurking behaviour or, at the other extreme, become advocates and enthusiasts themselves. Should we accept a two-dimensional love or hate relationship with online study? Or is there a range of responses to working online in HE? This study has been undertaken to explore such varied responses to the virtual learning environment and to explore teacher and learner's roles and expectations in this changing situation.

It is important to clarify the scope of this thesis. It is not my intention to undertake a comprehensive review of the nature of learning. This is a vital topic for ongoing debate but it seems reasonable to contend that learning can happen in any environment, whether planned or unplanned, and whether in classrooms, online discussion boards or on the street. Planned HE level learning relates to learning outcomes, which are amenable to demonstration through planned assessment. Traditional stimuli to learning in universities have included classroom discussion, library and private study activities, but increasingly these are being joined by planned online activities, discussion and reading. To what extent do these activities, and others available in online environments, contribute positively to learning opportunities, and to what extent might they be passive information environments or time-consuming gimmicks?

Nor is it my intention to encompass a detailed pedagogic and functional review of different Learning Management System (LMS) software packages, or to use a wide-ranging quantitative study of students' experiences of using LMSs to try to produce generalisable laws on observable approaches and responses to online activity. There seem to be too many variables at work to make this useful at this point. This investigation is focussed on the professional experience of using LMSs to form part of a learning design with students, who will also have face-to-face encounters with teachers. It is from this experience, as a university teacher, that my research questions about the relevance of the online learning environment and its impact on students and teachers arose.

This investigation comprises the second half of studies for an EdD. The first half consisted of several smaller-scale academic projects including one on the students' experience of blended learning. At that stage of my EdD research, I focussed on seeking to understand something of the students' experience through qualitative research study (Greener 2006),

working with students who had followed a particular type of blended mode study, using face-to-face and online learning activities, to explore their conceptions of the “blend” and how they experienced this phenomenon.

That study emphasized the key impact of the role of “teacher” in the students’ conceptions of online learning (together with a range of factors – contextual, psychological and sociological – which affected their experience). The logical conclusion was to further this research through a study of teachers’ perspectives of online study, which meant identifying teachers with enough experience of using VLEs and Learning Management Systems from the period 2004-5, a time when virtual learning environments were still a fairly recent acquisition for many UK universities and take-up with pedagogic purpose was still fairly thin. This, then, meant talking to pioneers; enthusiastic HE teachers who could speak from experience of the issues they and their students faced in adopting new tools and methods of learning within traditional HE contexts. For this reason, the outcomes of the study must be seen as reflecting those enthusiasms, rather than attempting to survey a representative range of teachers’ perspectives on online learning, which would produce a considerable number of negative and “no experience” results. This issue is discussed in more detail in the Research Methods chapter.

Addressing that range of responses among HE teachers will continue to challenge institutions for some time yet, but research which helps us understand the nature of teaching with online environments in relation to traditional face-to-face HE environments, and provides some pointers on how students may be supported and effectively introduced to such environments, can help with that challenge.

Why should we be concerned with online activity?

Integrating face-to-face and online study is an increasing priority in HE with the rapid take-up of VLEs and Learning Management Systems (LMS) such as that designed by Blackboard®, Moodle® etc. Academic staff increasingly face questions about how LMSs can be integrated with face-to-face teaching and learning strategies. In completing a professional doctorate, it has been possible for me to reflect on practical as well as theoretical issues, which affect my, and my colleagues’, practice. The swift introduction of integrated learning environments into UK Higher Education Institutions has, for some teaching staff, provided a world of new opportunity to explore, while for others there has been a more sinister scenario in which LMSs provide worrying glimpses into an

automated educational future, and which seem doom-laden for teaching staff, whose video imprints and widely broadcast lecture notes could quickly impoverish and perhaps replace their current roles. Let us not neglect the middle case, those teaching staff who are curious about the introduction of LMSs, yet fear the exposure of low-level Information and Communication Technology (ICT) competences, or the unaccustomed sharing of lecture notes and the need to revisit learning and teaching assumptions.

It is this last point, which has begun to take centre stage in the adoption of the VLE and LMS in UK universities. This is no simple new tool for teaching. A Learning Management System offers many new technologies and techniques for the presentation of and engagement with information and ideas. Those who have simply uploaded lecture notes and used the LMS for administrative convenience, which has been a first step for many teachers, have begun to face criticism from students, who may be more familiar with the online environment than their teachers. Teachers are being compared with each other in their readiness to adapt previous documents to the new possibilities of activities online. Once experienced, students can find it difficult to accept a simple administrative role for the LMS, expecting more and better from teachers in the way their material is presented and understood. Many teachers, too, have begun to question more deeply what role there was for information transmission in learning and what alternatives could be used, when software enables different ways of teaching. Increasingly, some teachers have moved away from trying to replicate the classroom online, to re-thinking their teaching philosophy in the light of VLEs and students' expectations (Coomey and Stephenson 2001; JISC 2004; Ham and Davey 2005).

Using the professional doctorate to explore practical and academic issues

The EdD at Brighton comprises 4 research projects. The first half of the EdD is made up of a developmental sequence of research projects of increasing weight. The second half of the EdD is made up of a single research project, which is reported in the EdD thesis.

| Stage | Delivery | Mode of study | Weight (% of EdD) | Credit weighting |
|--------------|-----------------|----------------------|--------------------------|-------------------------|
| | | | | |

| | | | | |
|---|--|-----|-------|---------------------|
| 1 | Research project 1: 6,000 words | P/T | 8.5% | 45 D level credits |
| | Research project 2: 8,000 words | P/T | 16.5% | 90 D level credits |
| | Research project 3: 12,000 words | P/T | 25% | 135 D level credits |
| 2 | Research project 4: 50-60,000 words | P/T | 50% | 270 D level credits |

Figure 1.1 Structure of EdD at University of Brighton

| Stage | Delivery | Weight (% of EdD) | Main method | Title of research project |
|-------|--------------------|-------------------|--|--|
| 1 | Research project 1 | 8.5% | Literature review | Learning and teaching in a virtual environment: an initial investigation focussing on the HE context |
| | Research project 2 | 16.5% | Qualitative method: Phenomenography applied to students' interview transcripts | Variations in students' conceptions of blending face-to-face and online teaching and learning methods |
| | Research project 3 | 25% | Statistical analysis (factor analysis - PCA, multiple regression, bi-variate correlation) plus tutor interviews and evaluation of questionnaire design | Using the Self-Directed Learning Readiness Scale with part-time professional programme students in the UK: an evaluation of usefulness in this context |
| 2 | Research project 4 | 50% | Qualitative method: grounded analysis | Exploring readiness for online learning |

Figure 1.2 Structure of this EdD

As shown in Figure 1.2, in addition to the phenomenographic study of students' perspectives of blended learning mentioned above, in the first stage I conducted a review of the wide-ranging literature on e-learning. Gigabytes of articles are being generated in

this field, which includes the overlapping domains of psychological, sociological, technical and educational literature on e-learning. Many e-learning studies are descriptions of specific applications of online learning tools, from software descriptions and validations to specific cohort studies, for example the description by Hiltz of the impacts of a particular software called Virtual Classroom™ used principally for its asynchronous conferencing tool (1997). Her self-description of a lecturer as a “cybernetic cowboy” trying to herd students into the virtual classroom struck a chord with my own experience at Brighton and vividly illustrates the issue of motivating students to participate in such fora.

That early literature review identified little of direct help to a university teacher struggling with pedagogic design involving VLEs. It did, however, help me to focus more clearly on the nature of the teacher’s control of classroom and online environments and the mediation of students’ learning approaches and motivations, which were likely to refute any simplistic attempts to find a “best way” of using online environments alongside face-to-face teaching and learning. My practical teaching concerns, when subjected to a little research rigour, showed themselves to be based on assumptions about teachers’ control and static profiles of students; like trying to find the right method for ocean navigation while assuming the world was not turning.

This early research experience introduced me therefore to concerns of equality versus diversity in the student group, of the dynamics between individual learner profiles and decision making about learning strategies, the social context in which learners learn and the specific learning outcomes and learning activities required by teachers, which introduces many variables into the teaching and learning equation.

The next piece of EdD research was a qualitative review of students’ conceptions of blended learning, mentioned above, which used a rigorous research method to listen to what students had to say about mixing online and face-to-face learning experiences in their HE programme, while trying hard to reduce the impact of this author’s rather enthusiastic opinions on the outcomes. This produced clear pointers to changing conceptions of online learning as the stage of online study progressed, a dynamic variable which helped me, as a teacher, take a longer view of early students’ responses to online study. It was possible to relate many of the findings to the existing body of research on students’ approaches to learning, notably from authors such as Pask (1976b), Marton (1976), Entwistle (1975), Biggs (1979), Ramsden (1979), and many subsequent works by these and other authors. In addition, there seemed to be, from this small study, a group

impact on the learners, which acted as a kind of collective conscience in tackling the temptation to “do it later” because it was online.

This led to a focus of research effort on the concept of self-directed learning, which seemed, according to the students studied and the literature reviewed, to figure large in the world of e-learning. A study of students’ readiness for self-directed learning turned into a critical analysis of Guglielmino’s Self-Directed Learning Readiness Questionnaire (SDLRS) (Guglielmino 1977; 1978; 1994; 2001; 2003) and this was my third EdD research study. It allowed me to question the concepts and notions embodied in the instrument, the statistical validity and reliability of the instrument, the range of thinking on self-directed learning and the range of concepts related to self-direction. The instrument was found to have some items, which, due to the questionnaire design, were not correlated significantly with self-directed learning readiness and a number of modifications were proposed. More importantly, the instrument was found to address only one component within the self-directed learning dimension, that of a love of learning and a preference for planned and independent study. A model was proposed, which identified personal learner, acquired learner, learning situation and teaching factors, as areas to address when assessing readiness for self-directed learning. (Appendix 2)

This series of research activities (in line with the requirements of the University of Brighton’s Education Doctorate) led me to identify the current focus on teachers’ perspectives of readiness for online learning. There is no question that self-directed learning plays an important role in readiness for study with online resources, just as it does within the broader context of HE study (for example see Candy 1991). Yet, there are more factors to consider in “readiness”, as identified in the earlier study of Guglielmino’s Self-Directed Learning Readiness Scale (SDLRS), from the perspective of the teacher, the environment of learning and students’ prior experience of learning as well as online study. Why is “readiness” an interesting focus for the exploration of these issues?

“Readiness for learning” as a concept, like most of the terms we use in learning and teaching (self-directed learning, pedagogy and andragogy, learning outcomes, and many more) is subject to varying interpretation by teachers and learners. Yet as teachers, we must behave as if something called “readiness” does exist, since this is the construct which helps us work out how to prepare learners for HE study, and which helps us to identify the prerequisites of skill, understanding and attitude which get learners to the starting line of degree-level study. In admissions interviews, we aim to judge learners’ readiness through the ciphers of prior qualification and experience of study, motivation to

learn and level of key communication and cognitive skills. It could be argued that if we understood a little more about “readiness for learning”, we could better support all entrants to HE study by identifying gaps and areas for support, rather than making (in some cases) simplistic judgements.

However, the “wonder product” which might assess readiness for learning would be a very complex object to design, given the variability amongst student’ approaches to learning and the influence of teachers’ pedagogies and contingent situation factors in how students make sense of the courses we provide for them. Then, there is the added layer of complexity which is the “otherness” and “newness” of online learning. If we are to investigate “readiness for online learning”, at some point we must distinguish between a general condition of readiness for learning and online learning, taking into account factors which must, almost by definition, include at least access to the Web and ICT skills.

For these reasons, this current research has focussed on developing, not an assessment instrument for readiness for online learning, which would require the development of critical concepts of readiness for testing, but an understanding from one perspective of the evolving roles of learner, teacher and the online environment itself in relation to learning. The perspective taken is that of university teachers and, due to the variable pattern of current uptake of LMSs within teaching designs, a number of teachers with enthusiasm for LMSs has been taken, to draw on these teachers’ pedagogic theories of practice (Jacobs 2005).

What impact are LMSs having on HE institutions?

“...confusion, multiple images and wildly differing scenarios.” (Reeve and Flowers 1999)

The picture evoked in this quotation from Reeve and Flowers some seven years ago sets the scene for a variation of usage of LMSs in Higher Education institutions. While in the commercial market, the two main LMS software providers to UK universities (WebCT® and Blackboard) have now merged, no such joint action is seen across and within the universities themselves. Attempts have been made to model different ways in which university faculties can engage with ICTs. For example, the University of Southampton strategy (Warren 2004) distinguishes the three levels of engagement of “foundation, integration and innovation”. Wilson (1996) discusses three categories of technologically

supported learning, the “computer microworld” of CD-ROMs and Web-based packaged learning, the traditional classroom supported by new technology and his version of the virtual learning environment: computer-based environments which allow “any place/any time” learning, allowing students to interact with each other and tutors as well as the wider world. Wilson suggests that this environment is about creating as well as delivering knowledge, a view which brings the online environment into the realm of learning rather than information transmission, also referred to as “Web-supported learning” (Reynolds, Caley and Mason 2002).

But this external view of how universities might utilize the power and growth of information and communication technologies, in particular through portals and platforms such as Blackboard, makes the internal perspective of e-learning within universities appear more consistent than the reality (Conole 2004). While HEIs have frequently developed overarching policies for the adoption of and engagement with LMS software packages, faculty embrace a wide range of views about the desirability of getting connected. Email and word-processing were considered useful supports to private and professional needs, and were widely and quickly embraced by the academic community. LMSs, however, appeared to offer to the majority no such useful and immediate benefits. This required the learning of new software in addition to the “worldware” (technology not developed for teaching but for more general use) advocated by Ehrmann (1995) as well as unmasking the spectre of sharing teaching materials and reviewing the hows and the whys of teaching designs. HE teachers’ perspectives were categorized neatly by Fox and Hermann (2000) as Oppositional and Sceptic, Neutralitarian, Booster and Transformationalist, the categories self-evident among a wide range of staff in many institutions.

There is a strong and often intuitive case for suggesting that the teaching of different subject disciplines will use different features and strengths of an LMS. This fits with the established notion that learning within a context is desirable, for example as promulgated by Jean Lave and Etienne Wenger (1991) in their development of situated learning in communities of practice. It also respects the notion of diversity of information sources available online as suggested by Conole and Dyke (2004b) The single feature of Web-linked access in integrated learning environments makes it possible to encourage at least a one-way flow from “real world” context into the academic activities of learning and teaching. Anecdotal evidence suggests that many teachers believe profoundly in the uniqueness of their discipline and its needs in relation to the academic environment and materials provided (Becher and Trowler 2001). Some use this as a reason to adopt an

LMS, for example, for their capacity to provide simulations and visual support for concept learning, for example in the healthcare disciplines. For others in the author's HEI, this is seen as a reason not to adopt an LMS, as they distrust the media involved to deliver the nuances of understanding and the face-to-face interactions necessary for particular subject learning.

HE teachers are, of course, not the only stakeholders in the widespread acquisition and deployment of LMSs. Other stakeholders include senior decision-makers, who see these environments as opportunities to diminish costly human resource use and reap economies of scale by the wider dissemination of teaching beyond campus and national boundaries. Students are increasingly experiencing a digital dimension to their lives, at any age, and demand instant access to information and learning materials, which were formerly jealously guarded in paper form. Information specialists recognize a value in LMSs for the wider and simpler access to published work afforded by fully online publications and the electronic archiving of material. Administrative staff can find a simpler and smarter way to communicate with students quickly and to ensure that regulations and guidelines are consistently published. The general benefits of LMSs to a university, or indeed any learning institution, including corporate bodies, are broad and appealing. However, the opportunities to build and deliver improved learning and teaching through LMSs, depend heavily on the uptake by academic staff and their attitude to LMS use is variously subject to gentle persuasion, direct order and indifference, depending on the institution's policy. A study of those academic staff who have chosen to embrace LMSs as a way of improving their teaching could offer some guidance here for institutions.

The structure of this thesis

A broadly "standard" structure follows which first explores the literature in the area of online learning in HEIs and some associated ideas about students' approaches to learning and teachers' perspectives of learning. This produces some clear questions, which are posed to university teachers at several HEIs through the medium of interviews. The research method used was required to explore ideas within and underpinning the teachers' responses, so full interview transcripts were subject to grounded analysis. A full explanation of the method is given in the relevant chapter. Findings are set out in the format of the key themes, which arose from the grounded analysis, and these, in turn, suggest further questions for analysis and discussion. The research method encourages

further literature review following primary data analysis and this is reflected in the discussion chapter; the order is based on the research questions concluded from the initial literature review, the analysis of primary research findings and initial and subsequent literature review follow. The conclusions, which close the main body of the thesis, aim to construct a detailed picture of a group of university teachers in transition and their conceptions of the evolving roles of learners and teachers with the advent of a digital environment alongside the more traditional meeting place of minds which is the university. That environment too is discussed, in order to understand more clearly the features of LMSs which affect learning. Practical outcomes and implications are developed from the study, since a professional doctorate should produce recommendations and outcomes for professional practice (Lester 2004; University of Brighton 2006).

Finally there is a reflective chapter, which traces the development of my ideas and understanding through the research journey undertaken for this award. It is in this reflective chapter that the broad-ranging effects of this study are traced to my professional practice and opportunities for building on this research are discussed.

Throughout the thesis, there is a tension around the ideas of learning and teaching and how they are affected by communication, activities and materials presented online rather than in the classroom. As mentioned at the beginning of this chapter, can learning happen “online”? Where does learning happen and what do the various answers to this question tell us about our understanding of learning and universities? We must not allow the regular usage of the phrase “online learning” in the literature to desensitize us to the potential conflict between a cognitive and experiential activity, which can be planned and emergent, psychologically and socially situated, somehow happening in cyberspace without connection with the brain of the learner!

It is also important to be clear about the particular context of this study. This author’s experience of teaching is based in a business and management discipline, and her experience of LMSs has developed through the design and redesign, justification and promotion of simple online environments as a positive space in which to learn, alongside workshop sessions where learners and teachers meet face-to-face. This approach has produced some outstanding examples of effective learning strategies from students who have taken advantage of the opportunities for learning on offer through LMSs. Other students’ experiences have been less enthusiastic and less positive. Rather than take this as an inevitable outcome, it has driven the search for understanding about “readiness” for

learning online. The blending of online and face-to-face learning experiences has been a prime motivator in my teaching practice with postgraduate professional part-time students. It is the potential narrowness of this experience which has led to the detailed research which follows; a foray into both relevant theoretical works and other professionals' perceptions of readiness for online learning with the aim of exploring how teachers are dealing with and understanding the changing world of technology-supported learning.

Chapter 2 Initial literature review

Introduction

The burgeoning and rapidly expanding literature on e-learning poses a serious challenge to the researcher, who must find a way through to those aspects of the literature which have a bearing on their own research focus. In earlier studies, I conducted a literature review which focussed on four specific dimensions of learning and teaching in a virtual environment: business research into e-learning, educational research, psychological research and sociological research. This review concluded that in areas of the curriculum which required reflection, tacit understanding and wide knowledge fields, such as business and management studies, a collaborative learning design, making the best use of self-directed learning practice, online materials and conferencing would be desirable. Moving from this background study to the present focus has required an initial critical study of literature from the perspective of Higher Education on the current stage of e-learning adoption and readiness which explored:

- Potential benefits or offers from online technologies related to HE
- Current topics in the field which relate to readiness including:
 - Self-direction in online learning
 - Transition to the use of LMS
 - The teacher's role in online learning
 - Readiness for online learning as a concept
- An overview of learning theories which could affect online learning perspectives

This has scoped out areas of the literature which related to individual case-studies of particular software or specific discipline-located learning and teaching designs, and studies which related to workplace e-learning, technical studies of software development such as adaptive hyper-media and personalised learning, and most studies which do not relate to the use of Learning Management Systems in universities. The increasing focus on social networking in the current literature occurred subsequent to this research study with the development of Web 2.0 and would need attention in future research in this field.

This study has posed questions about what is commonly called "online learning". In the introduction I made the semantic point that the learning does not happen "online" but in the mind of the learner. However, individual learning processes require stimulation from within or without, and that stimulation may be provided by a virtual environment based on

a Learning Management System (LMS). Equally such an environment may be a channel through which a desire for learning may be satisfied. This kind of system at its most basic will provide questions, answers, materials and links to relevant materials beyond itself in the Web. It may provide animated packages, interactive elements, simulations, games, streamed videos etc which aim at stimulating more than a visual sense, or documents on screen, which may or may not be especially designed for that environment.

The focus here is on the commonly available learning management system as exemplified by Blackboard® or WebCT®, which is found in many UK universities at present. Strategies for their introduction and use vary widely across institutions, hence the patchwork picture of university teachers' responses to these technologies. In one sense, the technologies here are no different from email or Microsoft packages such as PowerPoint®, which have been widely used in HEIs for some considerable time. They require some initial learning by the user. They require hardware and software for operation. They aim to enhance communication in some way, and in most cases, they require all users to have a basic level of expertise.

The key differences between common software packages and learning management systems are:

- Multiple tools available for users
- The opportunity to “design” and store for re-use an environment for learning stimulation
- Constraints on how the environment looks and what will work with that environment
- Opportunities for sharing information and using collaboration on a much grander scale via the Web or HEI intranet
- A need for teachers to know a little more about how it works in order to use it (unlike email or PowerPoint).
- The opportunity for an LMS to provide wholly online courses both for distance and campus-based students, as well as support or contributions towards traditional face-to-face courses.

These differences have magnified the gulf between university teachers who are prepared to use the LMS and those who choose not to do so, or to use it in a limited way without thought for learning potential. The current effect in many UK universities is that students have a variable experience of the LMS, with some courses and modules being fully LMS supported and some not, with many courses ending up as uncomfortable mixtures of

online enabled or supported modules and fully traditional modules. A common response by students to this situation is to request that more modules are fully supported by the LMS, principally because this is an environment, which brings the student benefits.

My earlier study of students' conceptions of blended learning suggested a number of positive benefits, which students associated with the availability of an LMS linked in to module teaching. This is supported by McFadzean (2001), among others, where she lists an impressive set of benefits, including multitasking within the learner group, learner control, quick response and feedback, convenience, flexibility for the learner and teacher, lower costs, no geographical or time barriers around the world and fast updating of material .

An even more comprehensive list of benefits is given by Alexander and McKenzie (1998) including:

- the opportunity for students to interact with others internationally,
- improved understanding of “difficult” concepts through multi-media animations (for example, see an account of the INCOTERMS challenge by Debbie Holley and Richard Haynes, presented at the BEST conference (2002)),
- development of ICT literacy through interaction with real-world problems,
- enhanced communication with tutors for part-time students,
- acquisition of information where a high level of factual recall was required,
- culturally situated learning via simulations or direct access to the workplace,
- facility for self-assessment of learning,
- increased content of learning through use of multiple representations or channels and
- increased interaction of academics and students via computer conferencing (discussed further in Alexander 2001).

Lists such as these tend to be generalised outcomes from specific cases, where considerable expertise, energy and enthusiasm from learning technologists and teachers have made online environments work for students. It does not necessarily follow that online environments are benevolent or that they will always deliver such benefits. The specific case study approach of so much of the literature can lead to a broad range of benefits from widely differing online activities and software elements, it is then challenging to filter out benefits which apply more generally to the standardised online environments most used in UK universities such as Blackboard.

A useful attempt to create a more widely applicable list of benefits can be found in the recent Joint Information Systems Committee (JISC) report on e-learning (JISC 2004), which identified six key benefit dimensions in the potential of technology to “revolutionise” learning:

- connectivity,
- flexibility,
- interactivity,
- collaboration,
- extended opportunities (beyond the classroom space) and
- motivation.

We must set against this impressive list of benefits not a few problems and barriers faced by learners and teachers alike. There is frequent reference in the literature to access barriers (for the individual learner and within organizations with poor or incompatible infrastructure), ICT competence issues and what has been called “computerphobia”.

Gráinne Conole and Martin Dyke’s work on developing a framework of online learning environment affordances (2004b; 2004a) has taken this set of benefits to a clearer position, since affordances have to do not simply with static ever present benefits, but potentials for action which can be envisaged in the relationship between people and environments. Affordances may facilitate positive and negative outcomes, which are important to understand in the design of online learning and teaching activities, and help us to further understand what it is we wish students to exploit in the online environment. Their work discusses the following ten affordances as a developing taxonomy:

- Accessibility
- Speed of change
- Diversity
- Communication and collaboration
- Reflection
- Multimodality and non-linearity
- Risk, fragility and uncertainty
- Immediacy
- Monopolization
- Surveillance

(Conole and Dyke 2004b)

Potentially negative outcomes can arise from fragility and uncertainty for example, as learners and teachers alike may be frustrated in attempts to identify long-standing links with useful sources as sites disappear from the Web, and personal computers play exciting tricks with apparently standard software applications, denying timely access to resources or synchronous discussion. Yet there are positive outcomes to be had from such an affordance. If we are to see uncertainty and fragility as “exciting”; this demands attention from learners, an idea supported by Gordon Pask according to his contemporary Scott (2001 page 899), where the latter suggests that Pask saw uncertainty as a kind of magnet to attention in learning.

Despite the Web-wide enthusiasm, LMS use is not yet universal, although it looks as if HE teaching is heading this way. Where such a system is used, a whole range of questions arises about how it should be used. Practical issues are increasingly well addressed by JISC research (for example JISC 2004 on effective practice with e-learning), concerning how to moderate discussion boards, how to design modules, how to assess online, how to use the online space for teaching. Increasing quantities of research are helping teachers, at least the ones reading the research, to use these environments with more confidence.

How does the literature talk about online activity?

Integrating face-to-face and online study is an increasing priority in HE with the rapid take-up of LMSs such as that designed by Blackboard. Academic staff increasingly face questions about how LMSs can and should be integrated with face-to-face teaching and learning strategies

Literature relating to the integration of VLEs and LMSs into HE learning and teaching includes case studies of specific courses and more generic issues relating to the design of relevant pedagogies. Brown and Duguid (1996) documented poor student participation and low motivation when little attention was paid to the integration of online learning into a course of study. A social constructivist approach to learning, which could be seen to derive from Vygotsky’s work on the Zone of Proximal Development (Vygotsky 1978) and the ideas of Activity Theory (Jonassen 2000), appear to be promoted as a good fit with integrated use of online media alongside traditional teaching methods. This is endorsed by Gilly Salmon (2000; 2002) in her approach to the effective development of active commitment and motivation among learners in an online environment, issues which

continue to cause practitioners concern. Theories of adult learning from Knowles (1975) and Houle (1961) to Mezirow (2000) suggest how adult learners in HE are expected to prepare themselves actively for the process of learning, but to what extent are these approaches equally relevant to preparation for online learning?

Self-direction in learning online

The literature on self-directed learning, a range of which is summarised effectively in work by Candy (1991), is seen to be central to the effective use of online media for learning (Guglielmino and Guglielmino 2001). Vygotsky's ideas on expert guidance in learning for children have also affected the use of learning technologies – this is developed by Laurillard in discussing mediated learning (2002 p21). Certain of Carl Rogers' values, such as the commitment of learners to each others' development, have been shown by writers such as Zimmer and Alexander (2000) to support online learning. In fact the literature in the field of learning technologies is liberally blessed with individual (and often authoritative) researcher/practitioner accounts of "good things" which happen in online learning environments and their relationship to a particular take on learning theory or pedagogy. It is not the intention in this study to explore simply the orientation of students towards the use of ICT, as this is well explored elsewhere, but to look at issues relating to the use of ICTs in an integrated learning design – mainly adopting "blended" learning, i.e. fitting together both face-to-face learning and teaching and learning and teaching within an online environment – and how students are perceived to deal with these ICTs, where additional attitudes, perceptions and competencies come into play.

A sense of transition

There is a notion of transition in the current literature, which is exploring and codifying a developing understanding of the freedoms and constraints of online environments for learning. This is moving from the early distance learning paradigms, as developed by the UK's Open University from "correspondence course" to multi-media learning support, through a range of institutional buying decisions resulting in Learning Management Systems and VLEs introduced often without clear pedagogical intention, with which HE teachers are grappling, to increasingly well understood online media and learning spaces which may offer alternatives to traditional university teaching methods. Somewhere in that transitional flux, HE teachers and students alike are making sense of the facilities they

have and trying to use them to enhance their learning and teaching as targeted by the Department for Education and Science (DFES):

"e-learning exploits interactive technologies and communications systems to improve the learning experience. It has the potential to transform the way we teach and learn across the board. It can raise standards, and widen participation in lifelong learning. It cannot replace teachers and lecturers, but alongside existing methods it can enhance the quality and reach of their teaching." (DFES 2003)

With this kind of driver for development in education, research on "how to" adopt e-learning in its various forms is mushrooming. In particular in the UK, the Joint Information Systems Committee (JISC), funded by the post-16 and Higher Education Funding Councils, is driving theoretical and practice research and the production of a body of materials available to teachers to help them with the practical decisions, which must be made, on how to design for online environments, what kinds of learning theory and outcome particularly relate to online learning and how to choose appropriate models. It is against this backdrop that a study of learners' readiness for online HE study from a teachers' perspective could inform pedagogical debate.

The teacher's role

The research study mentioned above (Greener 2006), and summarised in Appendix 9, explored students' perspectives on blended learning, and the role of online study within that mode. This found a strong focus on the importance of the teacher's role and provision of structure. This finding supported ideas proposed by Anderson, Rourke, Garrison and Archer in their study of "teacher presence" in a computer conferencing context:

"... it is only through active intervention of a teacher that a powerful communications tool such as collaborative computer conferencing ..., or cooperative learning ... becomes a useful instructional and learning resource. Identifying and quantifying the types of teaching presence interventions give us some clues to developing better support tools for pioneers of online education." (Anderson, Rourke, Garrison and Archer 2001 page 5)

This role was complemented in my findings by an emphasis on competence anxieties, levels of personal confidence and perceived barriers to online study for effective learning at the outset of a blended course. Other conceptions such as learning communities, personal approaches to learning and self-direction in learning related more closely to later stages in blended courses.

Learning to do online learning

This development of different conceptions of learning online, as the students became more familiar with the mode, fits with Carl Rogers' (1969) and Salmon's emphasis on setting ground rules, developing students' confidence and helping them to overcome initial barriers (Salmon 2000). The initial step for Salmon is access and motivation, then online socialisation, information exchange, knowledge construction and development, facilitated by both teachers and technologists.

Perry (1970) and Beaty and Morgan (1997) also identify stages of learner development. Fresher, Novice and Intermediate stages all consider the system and the institution to be in control of learning, while the Expert stage establishes control by self within a course and the Graduate sets up control by self both in content and method of learning. These ideas relate to those suggested by Greener (2006) as all describe a process of moving towards self-direction and personal responsibility for learning, with early stages which require considerable support and offer opportunities to take it easy or drop out.

Readiness

The concept of "readiness" is one which I had earlier explored in a critical study of Guglielmino's Self-Directed Learning Readiness Scale (SDLRS) (Guglielmino 1978). In this study (Greener 2003), the clear conclusion was that readiness for self-directed learning was a potentially confusing concept, since learners, who were more than able to behave in a self-directed way, could also choose to become dependent learners in different situations. Therefore to label learners as "self-directed" or otherwise was inadvisable (see also reference to the extensive literature on self-directed learning in the following section on constructivist theories). Readiness therefore had more to do with a set of capabilities, knowledge and attitudes, which could be employed through behavioural choice when needed. The situational factors affecting that choice seemed in this case to be more relevant to the student's learning approach than assessing "threshold" readiness for self-directed learning.

However, the study did suggest an approach for this research, which looked at readiness of students for learning from and within an online environment. In this case, we were no

longer discussing an optional choice of behaviour, as in self-direction, but potentially a set of capabilities, knowledge and attitudes, which could unlock this environment as an opportunity for learning and development. Arguably, a teacher's assessment of an individual learner's readiness for online learning, could affect the scaffolding offered and the design of an online environment and use of teaching and learning activities to achieve appropriate learning outcomes. Readiness for learning in any environment must be an individual issue, yet in practice, teachers tend to make design judgements and planning judgements on the basis of a view of a cohort or learning group's readiness for learning, rather than that of an individual.

This led to a review of the literature which encompassed first the idea of "readiness", then theories of learning which might affect teachers' views of readiness for learning, including individual differences and how these might affect readiness for learning, issues relating to group learning and a review of published work, which set out to explore the distinctions between learning in general for the purposes of education (Moore's "learning-in-education" as distinct from everyday learning (1986) and online learning.

Readiness in the literature

Readiness is not easy to pin down in academic literature. The above-mentioned Guglielmino SDLRS is based on an idea of readiness, yet offers no definition of this, treating readiness as a propensity to behave in a certain way, in this case a self-directed way. Readiness for self-directed learning is seen to be based principally on the factor: "a love of learning".

The McVay Online Learning Readiness questionnaire (2000) similarly relates to two principal factors "comfort with e-learning" and "self-management of learning" as found in an evaluative study by Smith, Murphy and Mahoney (2003). The key areas identified by McVay for inclusion in her questionnaire are:

- Internet access,
- comfort with written and electronic communication,
- time for study and time management generally,
- belief in knowledge review and the utility of past experience for study,
- belief in the value of online learning,
- personal initiative and independent, self-disciplined working.

This questionnaire is just 13 questions long and includes context-specific items such as particular number of hours per week which learners expect to spend on study, not necessarily an item which would be expected to relate exclusively to online learning. There is also a question relating to preference for “independent” study, which is appropriately criticised by Smith, Murphy and Mahoney, since this could be interpreted in varying ways by respondents. This questionnaire seems to focus on resource-based learning and self-direction in learning, taking account of online activities such as downloading text-based files and emailing but not really exploring the current range of online activities even in standard learning management systems, or the ways in which learners might experience them on first introduction – i.e. issues important for readiness.

Oppenheim, in describing attitude scales, identifies readiness as part of the definition of an attitude: ‘most people agree that an attitude is a state of readiness, a tendency to act or react in a certain manner when confronted with certain stimuli’ (Oppenheim 1992 p 105). Mezirow discusses readiness for communicative learning, taking that concept from Habermas to mean learning what others mean when they communicate with us, and suggests an emancipation of thought, a preliminary to autonomous thinking. His “preconditions for reflective discourse” include emotional intelligence (discussed by Goleman (1998) as including empathy, social skills and self-regulation) and maturity, education, safety, health and economic security (Mezirow 2000 page 15). Yet while this helps us to understand the emotional support, which may be necessary to enable learning, it is difficult to relate to the university situation where the students’ welfare is of great concern to, but often outside the direct influence of, teachers.

The Webster Dictionary definition of readiness is “... the mental or physical preparation for some experience or action”, yet this does not quite create a helpful understanding of the meaning of readiness, as it begs the question of what mental and physical preparation may be implied and this will presumably be infinitely variable depending on the task. Anecdotal evidence suggests this is nearer to a learner being “willing and able” implying ability through skills, knowledge and competence plus attitude or motivation focused on the task. Boxall and Purcell (2003), researchers in Human Resource Management, discuss employee performance of tasks in terms of an “AMO” model, constructed from the components Ability, Motivation and Opportunity . This helpfully extends our view by adding in opportunity to carry out the relevant task, since in online learning, the opportunity to engage in learning processes will be constrained if Web access or site navigation is problematic. Equally, in face-to-face learning, when the student is unable to

attend class, that opportunity for learning is again removed. Provided technology access is effective, online opportunities should be more flexible and available.

A number of references in the literature on readiness relate to institutional readiness, particularly for e-learning. An example is a readiness questionnaire produced by Samantha Chapnick (2001) which explores psychological, sociological, environmental, human resource, financial, technology, equipment and content readiness for e-learning in organizations. This organizational readiness focus is supported by Cristina Oliver's study of integration of online learning for LTSN (2003) and Borotis and Poulymenakou (2004) in their online review of institutional readiness for e-learning . From a differing perspective, Dron, Seidel and Litten (2004) discuss systemic problems arising from HEI inflexibility in resource provision and assessment which suggest a lack of institutional readiness for the provision of online courses, even though readiness as a concept is not discussed in this article.

The notion of readiness of students for online learning is developed in the context of the Australian vocational education and training sector by Warner et al (1998). This article discusses readiness for online learning in this sector as requiring three pre-requisites: learners' preference for online delivery of learning over face-to-face delivery, learners' confidence and competence in information and communication technologies for learning and the "ability to engage in autonomous learning".

Other references to students' readiness for online learning appear on a number of United States university websites, for example that of Pacific States University (2003) which offers a simple set of online questions for students to include with their admissions application. Concepts identified here as relating to readiness for online learning include:

- access to the Web,
- enjoyment of reading,
- a liking for learning and new technologies,
- ability to work alone and
- a desire for time flexibility in study.

There is no indication of the research basis for these questions, and all are based on self-report, but they appear at least relevant to online study. Algonquin College (2004) goes further to identify technical skills useful in readiness for online learning (use of computers, network, software applications, email) plus time management skills.

Further references maintain a coyness about what readiness for online learning might be. For example, Gibbons and Wentworth (2001) link this idea to a motivated orientation to learning found in online learners, particularly non-traditional students. So we are left with a relative shortage of studies of students' "readiness" for online learning, but some collected suggestions regarding the kind of ICT skills, which may be needed for online learning, and the suggestion that self-direction (defined as a liking for learning and independence in study) will be important.

Theories of learning and pedagogic beliefs

In the process of thinking about readiness for online learning, questions are inevitably raised about how we can identify a preparatory stage for something as complex and many-faceted as learning. Even narrowing the field by using the notion from Moore (1986) of "learning in education", the idea of learning fascinates and mesmerizes theorists and practitioners alike as we strive to get some ideological handle on the concept. We can find phrases in the relevant literature, which seem to hold keys to the concept.

"...a "leading out" from an established habit of mind" attributed to Kegan (1994 p232) by Mezirow (2000 p26)

"... an evolving, continuously renewed set of relations" (Lave and Wenger 1991 p50)

"...a key strategy by which students extract meaning and understanding from course materials and experiences." (Warburton 2003 p44)

"... programmed instruction and questioning insight ($L = P + Q$)" (Revans 1982)

"...determined by behaviour, its consequences, and the associations individuals make between the two" (Black and Mendenhall 1991 p232)

"...collaborative and social, not competitive and isolated." (Chickering and Gamson 1987 p2)

"...a purposeful, deliberate planned activity or series of activities by a learner intended to result in a change in knowledge, behaviour or attitudes." (Moore 1977 pp11-12)

This list of definitions is short, since a life's work would scarcely do justice to the range of definitions, especially when "learning" is qualified by a further dimension e.g. self-directed learning, skills learning, e-learning, vocational learning, etc. However the list does begin to inform the way this literature review developed, since these definitions relate to different philosophies of learning, which underpin university teaching to a certain extent. A brief summary of key theories in current use, which relate to a subsequent discussion of online learning and teaching design, is relevant here.

Behaviourist theories

Many discussions of learning theory (JISC 2004; Mayes and de Freitas 2004) start with a review of behavioural or behaviourist theory as associated initially with B. F. Skinner and his work with animals in the 1970s. The group of theories in this category can be extended to include Gagne and his work on Conditions of Learning in the 1960s, although this overlaps with cognitivist ideas. Gagne's nine instructional events (as cited in Kearsley 1994) fragment the learning process and were used as a basis for instructional design, which focused on a sequence of instruction. Bloom's taxonomy of cognitive activities arranged in a hierarchy, and often used for HE learning outcomes, although itself cognitivist, is often used in designing a behaviourist approach to learning.

Humanist theories

We can also find a group of theories with a "humanist" label, which owe much to the work of Carl Rogers in his book, *Freedom to learn* (1969), characterized by a facilitative role for teachers and the development of an atmosphere of safety and support for individual learners. Within the scope of this group we find Knowles' andragogy principles focusing on the importance of self-direction and the use of the learner's experience. This non- or even anti-didactic approach to teaching and learning encouraged discussion of individual differences, including popular theories and concepts such as serialist and holist cognitive strategies (Pask and Scott 1972; Pask 1976b), personality differences (Myers 1980), learning style preferences (Kolb 1984), sensory modal preferences such as visual, auditory and kinaesthetic preferences (Rose 1985) and multiple intelligences (Gardner 1993); these concepts tend to focus on some kind of fixed characteristic range of learners. There is also much literature on approaches of learners, which may differ not just among learners but also within the same learner over time. These would include the work of

Entwistle (1998), developing that of Marton and Saljö, and Biggs on learners' approaches to learning, which could vary from surface to deep to strategic or achieving approaches, each implying a different strategy and outcome and that of Vermunt on learning styles, which he characterizes as meaning-directed, application-directed, reproduction-directed and undirected (Vermunt 1998). Both of these "strategy-based" approach theories are supported in the JISC report of individual learner differences in relation to online learning by Terry Mayes (2004).

The subjectivity and variation implied in ideas of individual difference in relation to learning is particularly relevant to the idea of readiness for learning. Bandura's concept of self-efficacy for example, the idea that individual learners' self assessment of whether they were likely to achieve an element of learning, will, through the presence or absence of induced anxiety, affect learning outcomes for that individual (Bandura 1977). Similarly Ajzen and Fishbein's Theory of Reasoned Action (1980 cited in Coffin et al (1999)) proposes a major role for belief and attitude in influencing approach to learning, suggesting that attitudes towards an object or task arise from beliefs about that object or task, in turn affected by expectations of outcome and consequences leading to motivational effects (positive or negative). This theory, according to Coffin, was developed to apply to any behaviour, but has particular relevance to readiness for learning, including online learning as there may be a number of symbolic beliefs about computers, Information Technology (IT), online tasks, the Web etc which may influence a learner's readiness to interact online.

Constructivist theories

The next group of theories or philosophies are labelled "constructivist", where the emphasis is on activity by the learner to construct knowledge for themselves. The cognitive-constructive and Gestalt part of this group, including Bruner, is related to Piaget's view that learning and sense-making required active thinking to construct ideas and could not be gained by absorption of information. Experiential learning discussed by Kolb and self-directed learning discussed by many authors including Knowles (1975), Candy (1991), Brockett and Hiemstra (1991), plus pedagogical approaches such as discovery learning, problem-based learning, reflective learning and experimentation sit closely with cognitive constructivist philosophies.

Still in the constructivist domain, but relating more closely to the impact of groups and communities on individual learning, socio-constructivist approaches build on Vygotsky's work in social development theory (1978). Vygotsky's Zone of Proximal Development

identified the need for socially-mediated learning by describing the gap between current learning and potential learning when that mediation was supplied. Social mediation in constructivist approaches to learning have been taken up by Revans in Action Learning (1982), Pask in Conversation Theory (1976a) and Laurillard in developing the Conversational framework related to this theory (2002). Bandura's Social Learning Theory seems to include elements of Behaviourist, Cognitive and Social Constructivist thinking as learners attend to, rehearse and reproduce behaviours of others (1977). However the current focus of socio-constructivist theory is the situated learning of Lave and the development of this idea, plus legitimate peripheral participation, into the concept of Communities of Practice as learning enablers (Lave and Wenger 1991).

Building a composite picture of theories and beliefs about learning and teaching

A rough approximation of the theories and philosophies in relation to each other, and the dimensions of structure/dialogue as understood in Moore's Theory of Transactional Distance (1986) and individual/group focus, based on the sources quoted (adapted from Mayes and de Freitas (2004)) is shown in Figures 2.1 and 2.2 below.

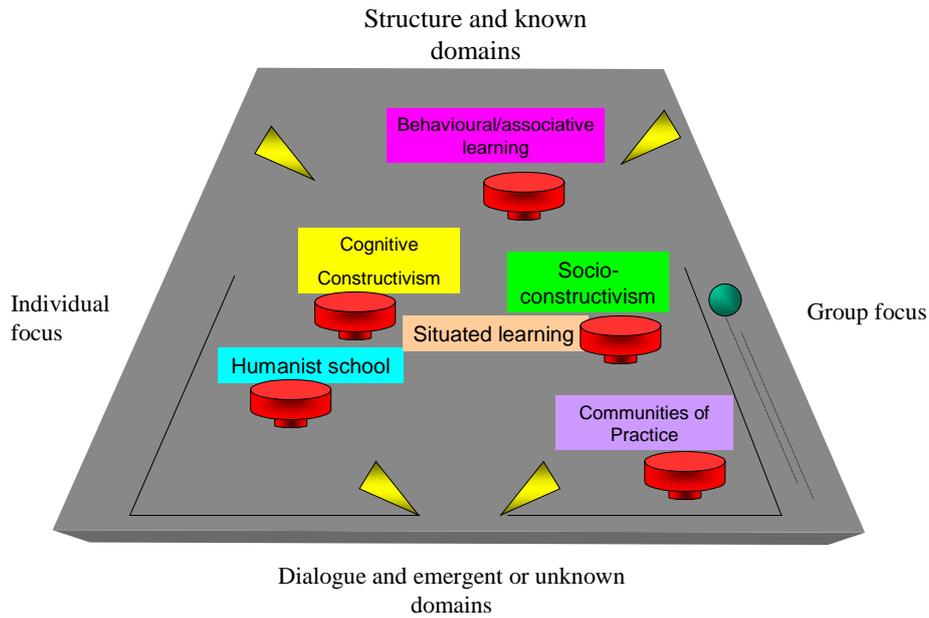


Figure 2.1 Mapping Teaching Philosophies

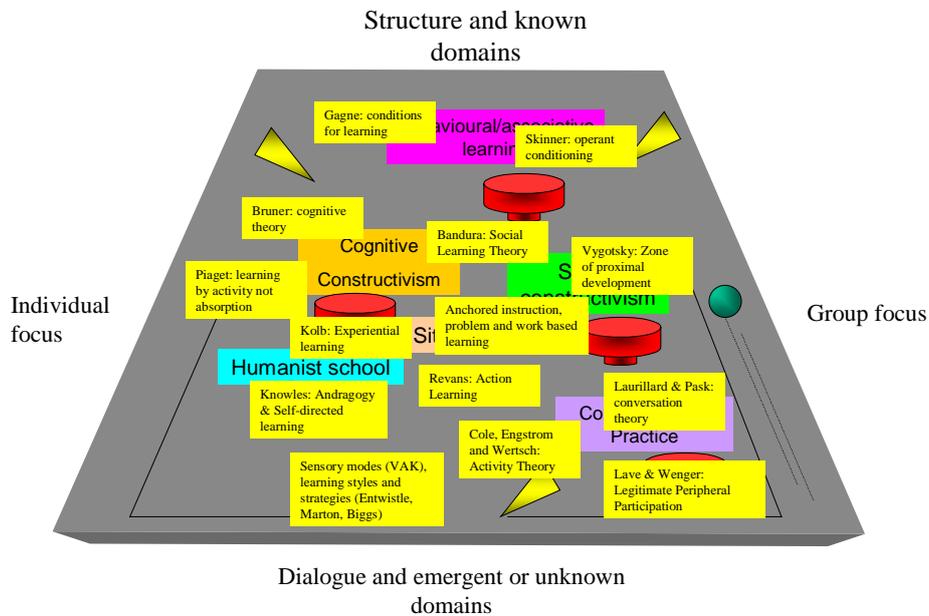


Figure 2.2 Relative positions of particular pedagogic frameworks [original page in colour]

The background for this map is meant to resemble a pinball machine, as this seems a useful analogy to explore the relative positions of learner and teacher. In most senses, the learner can apply or be seen to follow any of these approaches to learning, any role dictated by theory. For example, a short period of introspection led me to produce this snapshot of personal learning activities and their related theories in Figure 2.3.

| | I learn by: | Associated theoretical perspective |
|----|--|--|
| 1 | Doing and gaining feedback, practice and rehearsal to improve | Associative theory – behaviourist |
| 2 | Logic and elimination of options, trial and error | Gagne's sequencing – behaviourist |
| 3 | Watching or listening to others | Bandura's Social Learning Theory |
| 4 | Falling back on experience of similar issues | Problem-based learning, Action learning. Cognitive constructivist |
| 5 | Thinking things through | Cognitive constructivist, reflective learning, experiential learning |
| 6 | Formulating and asking questions | Action learning, dialogue, socio-constructivist |
| 7 | Creative techniques e.g. force fit, analogy | Associative and cognitive strategies |
| 8 | Being open to unlearning | Attitude consistent with self-efficacy, low anxiety, learning styles, humanist school |
| 9 | Being prepared in order to reduce anxiety in learning | Reflective learning, experiential learning, self-directed learning |
| 10 | Asking experts (face-to-face and online including search engines, databases) | Legitimate Peripheral Participation in community of practice, self-directed learning, socio-constructivist |

| | I learn by: | Associated theoretical perspective |
|----|---|--|
| 11 | Reflecting and analysing | Experiential learning, reflective learning – cognitive constructivist |
| 12 | Visualising patterns and connections | Associative and cognitive strategies |
| 13 | Keeping mentally and physically healthy | Humanist self-awareness |
| 14 | Expressing and sharing problems | Dialogue, action learning, community of practice, socio-constructivist |

Figure 2.3 Personal learning activities and their relationships to theory.

The point here is to show that individual learners can reflect many and every learning theory available, albeit unconsciously for the most part as they shoot about as the pinball from one learning position to the next. Whereas the teacher may be in the position of player of the game; there is potential for the teacher to choose the direction and speed of the ball and alter the kind of theory of instruction experienced. However, this assumes a certain level of pedagogical knowledge on behalf of the teacher, which may or may not be explicit or fully articulated in designing learning activities. I suggest that teachers who are comfortable with a range of theories of teaching and learning, and able to articulate these in relation to their pedagogic beliefs around learning, can apply these to the teaching resources and environment available, producing a position of control. Those teachers who are less aware of their personal beliefs about teaching, or theories of teaching and learning and how these may affect their learners and learning designs could be at random positions on the board, possibly unable to fathom the learners' reactions to their environment. At the start of my HE teaching career this characterised my position and in this respect I may not be unique. In a recent conference paper (Greener 2007a) I endeavour to set out a distinction between practical "teaching beliefs" (Chickering and Gamson 1987; Chickering and Ehrmann 1996; Mehanna 2004) and learning and teaching theories (Conole 2004), and how this distinction may relate to teachers' approach to designing Web-supported learning.

Applying theoretical approaches to readiness for learning

How do we achieve readiness for learning according to these different theoretical approaches? According to the behaviourist, we should prepare for learning by getting the fundamentals right, taking small steps before we can approach the larger ones, understanding the key skills and basic knowledge first. According to the humanist, we should prepare for learning by exploring our self-knowledge and adding to it by trying to understand our preferences for learning, what works for us and how we relate best to learning. According to the cognitive constructivist, we should prepare for learning by action, being prepared and willing to go out there and discover by doing, then being prepared to make time to reflect on and think about our experiences, in order to begin constructing our own ideas. According to the social constructivist or situated-learning perspective, we should join a group. We must be prepared to watch and attend as in Social Learning Theory, but we must also be prepared for apprenticeship, beginning to participate in a community of expertise to understand how things are done.

This review of learning theories has helped to clarify potential pedagogic differences, which may affect teachers' definitions of readiness for learning, whether they are explicit or tacit (Polanyi 1967). The next step is to move from learning in general as a process to learning online, which could have both process and content implications.

Online learning versus learning in general

Again there is a wealth of literature on online learning, and this review can only attempt to pick out key themes. Mayes and de Freitas (2004) appear to take the view that, while constructivist philosophies have much more air-time in relation to online learning (Jonassen, Mayes and McAleese 1993), the online domain represents all major teaching philosophies, including behaviourism through programmed instruction and sequenced tasks.

For example, Mayes and de Freitas (2004) identify associative/behaviourist approaches as relevant for accurate factual learning, which requires rehearsal and drills or guided instruction. This is certainly found in animations and the use of software such as CourseGenie® to segment and sequence text documents, as well as online quizzes or assessments with automatic feedback. Cognitive constructivist thinking is related to ill-structured problems where active construction and reflection is likely to support the

development of understanding. This is supported online, for example, through case study or scenario to provide context and allow learners to develop their own thinking towards solutions and underlying concepts. Social constructivist approaches will involve computer-mediated communication through at least asynchronous discussion boards or chat rooms, blogs, wikis and learning journals, which allow comment by others (teachers or learners). Increasingly the social software of Web 2.0 is introducing attractive ways of connecting with others online and developing creative communities, although they are by no means restricted to the activity of learning, especially formal, planned learning and may be antipathetic to such formality (Greener, Rospigliosi and Shurville 2007). Humanist approaches can also underpin such interaction, particularly through effective moderation of discussion boards, as exemplified in Salmon's model of e-moderation (Salmon 2000).

The Humanist school of thought also underpins much of the literature findings on individual differences and the way they may affect readiness for and performance in online environments. In particular, attitudes and motivation, affected by anxiety or comfort levels, feature in work by Hemby on non-traditional students (1998), Smith et al in the use of the McVay readiness questionnaire (2003) and Coffin and MacIntyre in their study of affective states in university and college students on computer-related courses (1999). Computerphobia and dislike of computers were seen to affect different groups in work by Raub in 1981 (cited in Coffin and MacIntyre 1999), Todmann (2000) and Seale and Cann (2000). Locus of control – external or internal – and personality were identified as affecting attitudes and performance online in studies by Coovert and Goldstein (cited in Coffin and MacIntyre 1999) and by Vance Wilson (2000), who found that sensing-thinking personality types were more comfortable with online learning

Self-directed learning and online learning

Another key learning concept associated with the literature on online learning is self-direction. Beyth-Marom et al (2003) found in the Open University of Israel that students choosing Internet based learning attributed higher importance to values that emphasize independence in thought and action, creativity and curiosity, and lower importance to values that emphasize maintenance of the status quo, and preference for what is familiar and well-organized. Howland and Moore (2002) found that students reporting positive attitudes about their online course experience exhibited attributes of constructivist learners, including self-direction. Students with negative attitudes seemed less able to understand the course content and to trust self-assessment of their learning, and reported the need for more guidance.

Before online learning was widespread, Spear and Mocker (1984) considered self-direction to be affected by the way students relate to a particular learning situation and environment, for example access and availability would affect their response, a critical issue during a time of transition when not all students have similar Web access from home, even though facilities may be available at college. A further issue raised by Brockett suggests self-direction should not imply learning in isolation, which is positive in relation to learning online where students may be physically isolated but in terms of transactional distance be in easy reach of dialogue with other learners and teachers (Moore 1986; Brockett 1994).

What has this initial search of the literature found?

The most obvious finding has been the sheer extent of literature relating to this study of readiness for online learning in the domains of education, learning, psychology and sociology as well as the growing domain of research in learning technology. The challenge has therefore been to focus down on literature of particular relevance to readiness for online learning. The concept of readiness itself has not had such attention, except in respect of organizational or institutional readiness. Evidence of potential for individual variation in relation to online learning has been found, although the dimensions in which this variation may occur are disparate. Suggestions of variation in attitude and belief, motivational approach, access and competence are strongest and much of this evidence comes from studies of students dealing with or choosing/opting out of online learning. However, it has been necessary to explore much wider in the realm of learning philosophy and theory to get an idea of the teacher's perspective in approach to and design of online learning.

By conducting a broad survey of the literature on theories of learning, it has become clear that individual teacher's philosophies and beliefs about how we learn will differ, judging by the tapestry of options found in the literature. It would appear on the basis of this literature that students can learn any way they like and frequently will choose more than one style or approach, yet teachers may be more wedded to particular theories of how we learn, which then influence how they design the learning experience for those students, becoming theories of instruction and relating to how we teach. Alternatively some teachers may be wedded, through successful experience, to particular ways of teaching, which may or may not be explicitly related directly to instructional or learning theories, but

which, as teaching beliefs of what works, are likely to affect how students should best approach their teaching.

It can also be suggested on the basis of this review, that the online environment, as used in Higher Education, can facilitate characteristics of all learning theories, in which it should be able, in theory, to accommodate all learners. It may, however, have specific affordances, which can put online learning into a special context offering unique potential for learning content as well as process. The beliefs of the teachers, who design specific online environments, may provide for only limited teaching and learning activities based on their own beliefs, including their beliefs about students' readiness for learning, both traditionally and online.

Summary

The initial survey of the literature relating to this field produced a range of ideas about teaching beliefs as seen by educational researchers, in particular the importance of social constructivism as a way of thinking about how learners develop ideas and knowledge in online environments. Contrasting views about the individual learner's approach to learning can readily be found in the literature: should we focus on experiential learning styles, learning strategies, or preferences for channels of sensory stimulation, or the stage of the learner or what they perceive they can get from the learning (for example a qualification or the satisfaction of curiosity)? What the literature review did not find was a body of thought on readiness of the learner approaching this task. Instead most researchers focused on readiness as a concept relating to institutions or organizations (such as companies), which provided e-learning opportunities, exploring policy and practice, infrastructure and operational support.

In the introductory chapter, I identified as the primary objective of this study a better understanding of the nature of teachers' experiences with online environments in relation to traditional face-to-face HE environments, and the development of theoretical and practical ideas on how students might be supported and effectively introduced to such online environments, through a clarification of what "readiness" for online learning might mean.

This focussed review of published literature identified a range of potential benefits associated with online learning environments and how different learning theories and approaches could be enabled through these environments. However, the benefits of a range of learning theories and understanding about the nature of learning would not usually be available to a student; the design and learning opportunities afforded by any specific online learning environment for a programme, course or module, would be constrained or affected by an individual teacher's beliefs about learning, in their role as "course environment designer". This is in addition to the inevitable constraints introduced by the software and hardware in use, both by universities and by students (Dron 2006a). There was relatively little in the literature, which articulated this framing of pedagogy and its impact on the students' experience of their own online learning environments. In some sense the extant literature seemed to assume a broad understanding of varieties of learning theories by university teachers and the opportunity to deploy them within available software.

The "readiness" concept was explored in the literature, with a few studies suggesting certain characteristic preferences (e.g. love of learning, value given to experience, ease with ICT, ability to manage time and direct learning) which could be associated with effective learning in online environments. However this focus on characteristic preferences suggested some kind of "best online learner", rather than suggesting how a range of students might be enabled to operate as online learners, particularly when those learners did not exhibit the characteristics or preferences mentioned.

This did not go far to answer the questions I had from teaching practice, which concerned how individual learners vary in their response to online learning and how, if we saw this variation as a problem, that problem might be addressed. It is, of course naïve to imagine that such an extensive and complex issue might be solved by one investigation, or indeed that this investigation could produce a theoretical frame, which could be extensively generalized to online learners. The issues here are complex and causing much debate in every sphere of education, so the aims here must be narrow enough to be achievable, yet the research method must be rigorous enough to encourage the reader to take the conclusions further in serious debate.

Specifically the research questions that emerged from the literature review (and set out below in Figure 2.4) were:

1. How do university teachers perceive the variation of students' approaches to online learning?

2. Why are some university teachers particularly enthusiastic about the opportunities offered by integrated learning environments?
3. What pedagogical beliefs underpin these teachers' practice?
4. To what extent do users of learning management systems identify and exploit properties or affordances of online environments?
5. How useful or valid is the concept of students' "readiness" for online learning? Can it provide a basis for discussion about supporting students' approaches to online learning?

Reading and reviewing the literature revealed these as unanswered questions. It was therefore proposed to direct primary research in order to explore what was happening in practice in other institutions and parts of my own institution, to investigate the impact of teachers' beliefs and views of learners and what they considered might be special about online learning. This was done by investigating the variation of views amongst teachers already engaged in online learning environments and exploring the concepts underlying teachers' theories of practice, ultimately to establish whether "readiness" was a useful concept in relation to learning and teaching online.

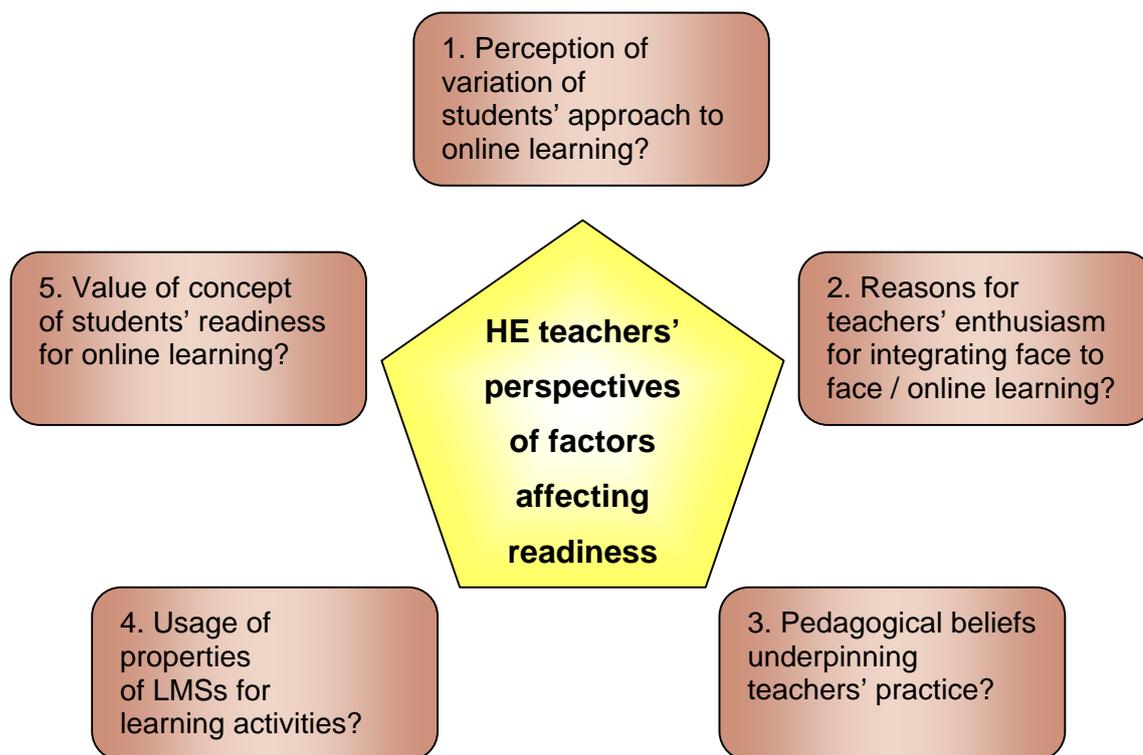


Figure 2.4 Research questions for primary research following initial literature review

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Chapter 3 Research Methods

Introduction

In the introduction to this thesis, the study was described as an exploration of other teaching professionals' perceptions and beliefs about readiness for learning, stimulated and supported by learning management systems or virtual learning environments in a higher education context. The research aimed to investigate the impact of teachers' beliefs and views by investigating their variation and the concepts underlying teachers' theories of practice, and ultimately to establish whether "students' readiness" was a useful concept in relation to learning and teaching online.

By exploring, in some detail, teachers' perceptions of students' learning and its variation, their readiness for online learning in particular and how they accommodate what they perceive to be the challenges here, it should be possible to develop a clearer picture of where online environments are going and how students may be well prepared for attempting to learn in and through these environments.

Quantitative versus qualitative approaches to this study

When trying to take a rigorous analytical approach to subjective concepts such as belief and perception, we are faced with a number of problems. First, how do we go about finding out the range of possible beliefs and perceptions? Can this be done by a quantitative sampling method? The problem here then becomes: how can we explore a sufficiently detailed number of beliefs to understand their variation, yet provide units of sufficient numbers for quantitative study? It would be possible to survey several hundred university teachers, but to gain this level of numerical response, surveys will necessarily be lacking in just the detail we need to understand them. This is not a question of "yes/no" answers or Likert scale responses allowing a limited number of positions on an issue. While we could find out how many teachers use particular sorts of VLE or LMS, the tools they use in this environment, the numbers of students they teach and the variation of achievement, these answers would not necessarily help us to explore the complex

interrelationship between a teacher's personal pedagogy and a moving carpet of technological opportunity available to them.

A second problem would be how to look for patterns in the data in order to characterize learners' variations. Again a quantitative approach here could posit certain variations and gain responses to them. For example we could ask teachers whether they see variation in the way students approach online learning and how much variation they see – offering comparative phrases such as “requires no support in Web searching” and “requires considerable support in Web searching”. However, this kind of question and response would only perpetuate the concepts in the researcher's mind and make it difficult to explore how teachers see learners' variation and the many ways in which that variation can present itself.

A third problem with exploring belief, and pedagogy in particular, is that this area is not commonly talked about by practising teachers; where it is discussed, a wide range of conceptions of learning were likely to emerge (Alexander 2001). So a pre-formed survey of any kind was likely to impose ideas and ways of talking about pedagogy rather than find out what teachers believe, or their theories of practice (Bolman and Deal 1997). A certain degree of reflection would be required from teachers to consider why they did what they did in relation to designing online learning and supporting students through that experience. This degree of reflection is difficult to achieve without facilitation – something which is possible in an interview face-to-face, but difficult in questionnaire response. The personal “anchors” and “theories of practice” which underpinned teachers' activities in this field were important areas to explore, in order to clarify the knowledge, beliefs and assumptions which guided their practice (Jacobs 2005). By investigating these beliefs, it would become possible to develop theoretical ideas about how teachers could behave in designing and using online learning environments, and how they expected students to behave. In this study, this turned out to be an important issue, as the concept of learners' readiness was not one which teachers were used to discussing, and some reflective thought was required for them to work out their views or explore the idea.

A qualitative and interpretivist approach was therefore indicated for understanding teacher beliefs, one which allowed teachers the freedom to discuss and reflect on issues, without imposing pre-formed ideas or phrases. An ethnographic approach here would allow us to delve into belief worlds and try to understand a range of connections between prevailing theories and ideas and teachers' practice. However the limitations of time and length of a stage two EdD thesis would mean that perhaps only one detailed ethnographic study of

one or a very small group of teachers could be effectively studied using this technique. This would be a worthwhile study, but would not necessarily answer my research questions, which seek a broader picture of how teachers are dealing with and understanding the changing world of technology-supported learning.

An interview or focus group approach seemed therefore most appropriate to my research questions since a number of teachers could contribute their ideas but still explore their beliefs in a less constrained way than by questionnaire. At this stage of the research enquiry, focus groups could have been used, but the group dynamics experienced in them (Bryman and Bell 2003 p 369), could have clouded the variations of opinion. I did not seek to gain some immediate consensus, but rather to explore how teachers using online environments in higher education dealt with their subject's constraints and requirements and supported learners. A focus group approach may still prove a suitable next stage to this research, where the ideas generated could be further developed against a wider population of university teachers.

For this study then, an interview-based enquiry was considered most appropriate. The arguments against questionnaires also suggested a semi-structured or unstructured interview style. The inevitable issue with interviews is the capturing and recording of data with as little effect on the genuine views of the interviewee as possible.

One option which seemed relevant to this study was phenomenology. A phenomenological approach would contribute to an understanding of the specific experience of learning online or at least using online resources and environments for learning. By treating students' readiness for online learning as a phenomenon to be investigated, we begin to address the needs of this enquiry and find a way to focus teachers on an issue, which may not previously have been actively considered. I had some experience of using phenomenography as a research method, originally favoured by Marton (1981; 1994) and subsequently used by others in using a detailed analysis of subjects' language to explore a range of conceptions of a phenomenon, particularly in the field of education (for example: Marton, Hounsell and Entwistle 1984; for example: Sandberg 1997; Brew 2001; Berglund 2004).

Phenomenography focuses on the expressed experience of a phenomenon rather than the phenomenon itself. My earlier study of students' conceptions of blended learning used this method for a small scale qualitative study (Greener 2006 in Appendix 9) and found

that the techniques employed had much in common with grounded theory (Glaser and Strauss 1967) – again a technique I had used in an earlier research dissertation (Greener 1983). In both methods, interview transcripts are subject to detailed content analysis in such a way as to explore, categorise and relate ideas expressed within the interviews about a phenomenon.

There are considerable differences, however, between phenomenography and grounded theory. In the former, the outcome space is explored and the expectation is that the full range of outcomes or expressions of a phenomenon will be identified, even with a small number of interview transcripts or other documents. The purpose is to identify the range of ways in which a phenomenon is experienced. So, for example in my earlier study of students' conceptions of blended learning (in that case, the experience of alternating face-to-face with online sessions), this method allowed me to identify nine such conceptions, which are summarised in Appendix 9.

These conceptions included positive and negative subcategories and offered a benchmark against which other students' approaches to blended learning could be compared.

However, grounded theory does not attempt to describe everything about the ideas contained within the documents analysed. Grounded theory aims to develop theoretical or conceptual ideas about a phenomenon inductively from data, i.e. neither all possible theories from that data, nor all possible conceptions of a particular idea in that data. Yet the detailed iterative analysis of the data is similar in both approaches. It is not identical, as grounded theory employs data collection, analysis and the developing of theory as progressive processes, where additional data can be added to the analysis at a later date, and where the choice of those data will be related to the developing theory. Unlike phenomenography, which starts with a stated phenomenon as a central focus of study, grounded theory has an even more open approach to the data and allows theory to develop. This sounds rather like a magical process: indeed it is discussed as "serendipitous" by Konecki (2005), but it is far from that, as an account of how this study was conducted, will show.

"Readiness"

So where does this take us if we want to ask a group of enthusiastic HE teachers about their views of students' "readiness" for online study, their perspectives on their own role in

creating effective online learning environments and the value this mode might contribute in HE? It was important to consider how the method could reduce researcher bias, and ensure that the data was driving the findings, given my personal enthusiasm and experience of teaching with online environments. The constant comparative method, which drives a detailed iterative analysis of data from interviews, offered benefits. These included the freedom to look for any ideas and categories of response in the data, which related to learners' variation in readiness for online learning, without pre-conceptions on the perceptions and beliefs underlying teachers' actions and use of learning management systems.

In addition to the method of handling the data, a grounded analysis approach aims to build theory. It is important here to question what such "theory" might look like and what it aims to do. Glaser and Strauss in "The Discovery of Grounded Theory" (Glaser and Strauss 1967) discuss the difference between substantive and formal theory, suggesting that substantive theory is closely linked to empirical observation and is a precursor to more formal theory. This close relationship of substantive theory and practice initially encouraged me to use this method, yet the distinction is not totally convincing. The discussion seems to be based on the notion that substantive theory is centred on the tangible and everyday issues in sociological enquiry, such as race relations and patient care (p 32), while formal theory moves these ideas into a less tangible set of concepts, in the authors' view such concepts as stigma and socialization. This distinction clearly fits their view of grounded theory as starting with the empirical observation and building towards more formal theory.

From a practitioner's perspective, the idea of aiming towards a formal theory in this way is less appealing. The practitioner needs less of a formal theory and more of the kind of theory, which directly relates and assists decision-making in practice. Surely therefore what Glaser and Strauss refer to as a substantive theory is an appropriate end goal for the practitioner. But to distinguish the practitioner and researcher in this way suggests they have different needs – why should this be? Perhaps the researcher's goal, too, should be a set of theoretical ideas which shed light on practice and is sufficiently accessible to practitioners to influence decision-making, otherwise such formal theory may remain accessible to few and unread by many.

Also the kind of theory aimed at through a grounded analysis, seems to have much more to do with making sense of reality, than producing esoteric concepts. In Karen Locke's

book “Grounded Theory in Management Research” (2001), there is a helpful discussion of what this theory could look like:

“...the creative opportunity and the particular challenge of the grounded theory style is that (the researchers) have to invent some aspect of the social world through their conceptualisation. The conceptualised element then becomes a lens for bringing into focus the patterning perceived in the social situation they studied.” (Locke 2001 p37)

This approach, and the idea of making sense of a phenomenon by telling a story which could provide insight into and understanding of that phenomenon (Maxwell 1998), helped to convince me of the value of a grounded analysis. This study required me to find a method, which explored university teachers’ perspectives of learning online, not just their own views but how they saw students dealing with this relatively new challenge. In order to get inside that story, the research method had to unpeel a number of layers of thinking and belief. First of all there was the way university teachers talked to colleagues about their teaching, which included coded ideas such as what lectures represented in a university context and how the politics worked in relation to innovation. Then there was their relationship with their students, which itself would vary but could shed light on how they approached the design of their online environments. Then there were the activities undertaken to deal with both the teachers’ learning about this environment and the perception of the students’ learning about the environment. A detailed and rigorous analysis of the way teachers talked about this educational situation was needed, which would allow ideas to emerge from the data, rather than be imposed by the researcher’s personal constructs. However it was still important to acknowledge that the interview responses would be affected by the researcher’s presence and guidance and the analysis would be led to some extent by the researcher’s ability to spot ideas in the data. It was important to delve more deeply into the background of this approach before applying it.

Looking in more detail at Grounded Theory

The choice of grounded analysis, based on grounded theory, led to an initial investigation of the theory’s background. In the late sixties, this approach to theory-building was a reaction to the focus in sociology at that time on evaluation and testing of contemporary theories. A novel interpretivist method, which focussed on the surfacing of new theory from data provided by documents and interview transcripts, maintaining its grounded connection with that data by the “constant comparative method” which involved much

iteration as ideas were developed from data reading and idea comparison. Strauss later developed the codification ideas initiated in grounded theory and, with Corbin, focussed on the methodology of the approach, looking to rigorous systematic coding processes to underpin the generalisability of theories built (Strauss and Corbin 1998). Glaser later rejected the direction taken by Strauss and Corbin and re-affirmed his view of grounded theory as seeking to build theory around a phenomenon, still using theoretical sampling, constant comparative method and category saturation but not in the systematic and detailed way advocated by Strauss.

The debate continues as to which approach has more credence, but the essential grounded analysis approach offers a useful way to investigate data, maintaining some distance between the researcher and the data by:

- systematically fragmenting the data into references to ideas,
- grouping ideas into categories and
- continuing to revisit the data as well as moving into new data fields as necessary, to saturate or strengthen the meaning of descriptive categories and
- developing understanding about them in order to produce new theory.

An additional constraint is to “under-review” the field of published literature until data is collected and analysed, attempting to decrease the possibility of looking for supporting or contradictory information in the data, but instead allowing the researcher to frame ideas freshly. Once the concepts or theories are built, then the literature can be brought more closely to bear on these conclusions, by the researcher or others who seek to critique the theories.

The risks of this approach are considerable as the researcher may spend many hours of work on data, only to come up with self-evident or previously published ideas. However the data grounding should provide a context for the findings, which allows new patterns to be investigated. In this study, I have found it particularly helpful to use a grounded analysis, regularly referring to works on the method to ensure that any useful advice could be incorporated, and distancing myself from the temptation to jump to conclusions too early.

It would be difficult to suspend judgement of the data unless thoroughly convinced of the safety of the system used to record the fragments; in this case a database, which allowed quick searching and checking of data at every stage. This suspension of judgement of the data is itself valuable, both by preventing superficial conclusions at too early a stage, and

by providing considerable tension to the stage at which ideas can at last be connected rather than distinguished. The subsequent freedom to connect and compare ideas and references in the development of theoretical categories is heady and ensures that there is no stage at which the researcher tires of the data. After a very lengthy period of analysis, there are still many steps, which could be taken, to develop and extend the theoretical ideas produced, including testing ideas in a large student study, investigating further groups such as those using e-learning in the workplace, but this is for the future. For the purposes of this study, the methodological constraints and fragmentation process of grounded analysis have allowed a much richer harvest of ideas than a simple review of transcripts could have achieved.

How the procedure was used in this study

The first few interviews were conducted within the author's own university, including staff from a range of faculties and subject disciplines. It was important to move outside the author's discipline, to encounter teachers contending with substantively different levels of factual, visual and discursive content, as they could be very differently represented both in face-to-face and online teaching. In addition, there was a deliberate choice to talk to teachers of undergraduates, postgraduates and post-experience students working full-time and part-time as it was important to look for possible effects of different modes and levels of teaching.

A total of ten interviews was conducted. Much thought went into the number of interviews to be conducted in this study, focusing on the need to allow sufficient time to analyse thoroughly each interview in great detail using the method proposed. There was a trade-off between the number of interviews and the depth of analysis of the data generated within the time available to undertake the research. This number of interviews allowed a variety of disciplines and institutions to be explored, without aiming to be a characteristic sample of university teachers in the UK. This number was an outcome of the grounded analysis process, which produced increasing redundancy in further exploration. I was not looking for the definitive explanation of readiness in this study but rather to develop theory about the relationship of new learners, teachers and the online environment, which would allow me to explore learners' readiness in a rapidly changing context – universities in the UK at the beginning of this century. In other words, this research was an exercise in theory-building, rather than theory-testing.

The technological drivers for this research were under constant review, as learning management systems themselves were changing and schools, colleges and universities were continually shifting their stance on how such technologies could be used in teaching. In view of this changing context, the aim became to explore and seek to understand or theorize more clearly the range of current opinion and belief around students' readiness within a particular period of time. The number of interviews was not finalized until sufficient cases had been looked at to provide reassurance that similar categories were appearing in later interviews, i.e. that the emergent categories were "saturated".

Academic disciplines "covered" included: business and management, e-commerce, information systems, health, architecture, fashion, and human resource management. Academics interviewed were teaching undergraduates, postgraduates and professional or post-experience students in five UK HE institutions. Common software used by most interviewees included Blackboard® and WebCT®, although other software and VLEs had contributed to their experience. The interviewees were chosen because they were involved in a substantial way with the use of learning management systems. In the researcher's own institution, this was fairly easy to identify, since these university teachers were known to be using the system for more than just storage and simple access to notes and administrative information. These people were experimenting with ways of using the new technology available to them and were discussing this in university fora such as the University of Brighton's annual Learning and Teaching Conference run by the Centre for Learning and Teaching. Outside the researcher's institution, conference papers and seminar presentations were tracked on the topic and led to approaches to individual teachers who were active in this field.

| Interviewee | Basis for selection |
|-------------|---|
| 1 | Experienced university teacher of business undergraduates. Introduced innovative assessment methods through LMS for traditional courses. |
| 2 | E-commerce background. Teacher and published researcher in the e-learning field. Actively introducing new technology into business courses including fully online teaching. |
| 3 | Healthcare background. Pioneering innovation in learning and teaching and introducing this to course teams for professional and academic study. Had delivered cross- |

| | |
|----|---|
| | faculty seminars on this topic. |
| 4 | Architecture background. Track record of using both intranet and LMS to support teaching, experienced advisor for other academic staff and developing technologist role. |
| 5 | National Teaching Fellow, experienced researcher and teacher specialising in adaptive hypermedia and pedagogical development in e-learning. |
| 6 | Senior university teacher in business. Had given papers at professional conferences on experience of running synchronous seminars and using video lectures through LMS. |
| 7 | Professor Emeritus, had been government advisor on e-learning, widely published in the field. |
| 8 | Professional developer increasingly engaged in university teaching and initially sceptical of use of LMS. Had revised views and was, by the time of selection, publicly enthusiastic about online learning. |
| 9 | Art and design background. Senior university teacher using online resources extensively and developing a portal project at time of selection. Had delivered university seminars on this topic. |
| 10 | Lecturer with experience of using LMS at two different universities, and who had experienced online learning in HE herself. |

Figure 3.1 Profile of interviewees

The selection of interviewees in this study may be criticized by characterizing them to a greater or lesser extent as enthusiasts for learning management systems, teachers who were actively experimenting with and developing the pedagogic value of technologies. The research outcomes, then, would be based in that proactive stance and would not represent in any sense a majority view of university teachers, nor of those using learning management systems. However in the process of building theory in this context, it is a valid approach for the following reasons. First, the research outcomes here are not intended to be a world view or necessarily generalisable to all university teachers. Instead the intention is to develop substantive theory, which can then be offered for debate,

development and testing in a broader population. Second, the choice of teacher in this research was focussed on the relatively small number of university teachers in this period who were actively applying some kind of pedagogic thought process to their use of the technologies. If there was a “best practice” in this field, it was likely to be found amongst this group of teachers. In the researcher’s own institution, many teachers were not using the technology at all when the research period began, and of those who were using it, many were seeing the technology as an unwelcome additional burden or as an administrative or political vehicle, rather than one suited for pedagogic added value. It made sense, therefore, to go further afield to other institutions to find suitable cases for investigation and comparison. My research questions were aimed at those who saw the technology as useable pedagogically and who were trying to make sense of the technology in a university context against a changing resource background.

The interviews

The interviews were each conducted in the teacher’s work institution as a relevant context is suggested by the research method. Each interviewee was given a copy of the five questions around which the interview would be facilitated, and information on the purpose of the interviews and the scope of the research. A written consent form was also signed and witnessed at the beginning of the interview itself. (Examples in Appendices 3 and 4)

The five questions were:

- 1 “What do you think about the idea of “readiness” for online learning?”
- 2 “What gets in the way of online learning for your students?”
- 3 “Why do some students seem more successful than others at learning with online resources?”
- 4 “What difficulties do the students have in blending their face-to-face learning with learning through online resources?”
- 5 “What kind of learning activities do you expect of your students when using online resources?”

These questions were put to each interviewee, but the interview itself was run as an extended conversation, which allowed the researcher to probe and check understanding of ideas and items discussed, develop her understanding of the context in which the

teacher worked, and satisfy herself that teachers' beliefs were explored to a sufficient extent to explain how the answers to the skeleton questions above were understood. Each interview took from three-quarters of an hour to one-and-a-half hours, each being taped and then transcribed. Transcriptions were either done by the researcher herself or by a colleague and then checked with the tape by the researcher. These interviews produced a total of 302 transcript pages.

Coding and developing idea codes and categories

The next stage was to work in detail through each transcript, identifying phrases, which had some connection to the area of research study. Each such phrase was identified in the transcript with a unique reference code and recorded, with verbatim text reproduced, in the database. The same phrase or sentence could suggest more than one idea code reference, although this was not usually the case. While the most productive time for new idea codes is in the first few transcripts, there is a sense of reassurance when an idea code is supported by references in more than one transcript, and a sense of continuing productivity and freshness when later transcripts reveal completely new idea codes. (See Appendix 5 for a sample page of coded transcript).

Once the first pass through the data was complete, 769 references had been coded in the ten transcripts and these had produced 92 idea codes. (This first pass coding took approximately 54 working hours). By the end of this part of the process, the researcher was fully familiar with the transcript content and idea codes and was then able to do a second and third pass through the data to apply idea codes, which had arisen in later transcripts, to references to similar ideas in earlier transcripts and vice versa. This is the raw material from which categories, which could represent and define the theoretical findings, were developed. Three passes through all the transcripts were considered sufficient as no new idea codes, or references to idea codes, were being found by the end of the third pass through the data.

The next step was to explore relationships between idea codes and their dimensions. Categories in grounded analysis are discrete notions or concepts, which have arisen from the data. Their development and saturation relies on high quality processes in the first phase of consistently identifying idea references in the data. The category development phase works with the idea codes and the data references within them to pull together a meta-layer of ideas, grouped so that categories can be defined discretely and usefully in

relation to the research questions and in relation to each other. It is the relating of these categories, which begins to develop the grounded theory itself. This painstaking process is well suited to the behaviour of an obsessive perfectionist. The sheer detail of the work is helpful in forcing out pre-conceived ideas from practice and the literature so that the resulting theory is truly grounded in the data. However this is not a "clean" process in the sense that all the way through, however objective the researcher attempts to be, there is a series of decisions about coding, re-coding and pulling together ideas into categories (and developing new ones through the process) which are all guided by the researcher's experiences and personal perspectives.

"to prepare an interpretation is itself to construct a reading of these meanings; it is to offer the enquirer's construction of the constructions of the actors one studies"
(Schwandt 1994)

Given this issue of subjectivity, should there be more than one coder for this data? While it is entirely reasonable in phenomenographic research to use multiple coders to check the consistency and accuracy of the coding process, this is because phenomenography aims to discover the full set of variations in an outcome space, so the consistency of the process is vital. Whereas grounded theory, at least in the Strauss version, readily admits the subjectivity of the researcher, using this unique perspective to review data and identify ideas, categories and relationships to produce or generate theory. This means that other coders could generate their own grounded theory from the same data - which would be entirely possible. The issue here is that if another coder were used to "validate" my coding process, this would raise a series of further questions about their purpose, underlying perspective and understanding of the issues. Even if a second coder were to come up with exactly the same coding as me – this may not be a good thing, leading to questions about who they were and why they were doing the task. Equally, if they came up with entirely different coding references from mine, would that invalidate mine? Surely not, as they could come up with a different theory with their references, which might be equally valid but not invalidate mine.

Such a parallel process might be useful, but its use in relation to such a theory as this would be better focussed on subsequently testing the assumptions, predications and relationships of the theory itself, rather than in trying to recreate the theory from the same raw material. The theoretician in a grounded study brings unique combinations of prior work, practice, reading, personal constructs, preferences, personality etc, which help to generate the theory at this particular time and from this particular data. The better

question is, was the process internally rigorous, i.e. is it trackable, was the process consistent between interviews and references, is it possible to follow the construction stages of the theory and be convinced by its growth as a substantive theory, which has validity in these circumstances. And then other researchers should be in a position to test the theory in practice and determine whether it adds some value, some new way of making sense of the world.

This debate informed the research approach in this study. Transcripts were checked against recordings of the interviews, and those recordings were again referred to if some doubt about the intention of the speaker affected the coding process – using the additional voice tone and pacing cues available on the recordings. Detailed records were kept of the transcripts, the idea codes identified with unique references, which tracked the sequence of the referencing event, the transcript and page to which it referred and the idea code to which it related. Idea codes were kept in a database and were referred to constantly during the coding process, to ensure that each idea code was differentiated from others, and where idea codes seemed related in some way, this too was recorded in the database for subsequent review. The process of relating and organizing the idea codes into categories – larger groups with some common identity – again was documented in the database and any thoughts or ideas sparked from this data and the process of analysing it were recorded in the database – where appropriate recording the idea codes or categorization process which triggered the idea.

Re-reading the transcripts, having completed the analysis in this way, was a useful validation of the method, in that the subsequent categories and ideas which have resulted, could be seen in the data by the researcher, but were not necessarily clearly visible for a fresh reader of the data, although the theory produced is nowhere contradicted by the source data. So “substantive theory”, or a way of making sense of the data, was found through the process.

Summary

Appendix 6 shows, in table form, the distribution of idea code references within transcripts and the way in which these idea codes related to the final categories, giving some idea of the detail of the grounded analysis process. This chapter has attempted to explain the reasons for choosing grounded analysis as a research method of particular relevance to

the research questions and context of the study. Questions about the rigour, sampling and coding and theory-building have been explored and the actual process presented in some detail. The next chapter presents the findings from this process.

Chapter 4 Findings

Introduction

This chapter sets out the findings from the grounded analysis, which focus on the research aims of this study. Having begun the research with the observation from practical teaching experience that students seemed to differ in their readiness for online learning, the study set out to explore this variation and to see how that “readiness” related to “online” as opposed to “face-to-face” learning in an HE context.

The main method used in the study was a grounded analysis, which went beyond the individual comments in the interviews and first fragmented and then synthesised individual ideas into categories of meaning. This was a concept-building exercise and one which has been described in detail in the Research Method chapter.

The analysis produced a range of 92 idea codes, (see Appendix 6) each of which is related to a number of references in the transcript data. The idea codes were the building blocks for ideas found in the transcripts. Idea codes were sometimes suggested by phrases in the data itself, or were phrases, which stood for the core of an idea appearing in different words in the transcripts. The detailed names of each idea code and associated references are given in Appendix 6, as they are not important in terms of the outcomes of research, but rather as an indication of its process.

The idea codes were reviewed through the constant comparative method and produced twenty-five “categories”. These categories are the findings in the sense that they pull together the wide range of idea codes into a more systematic picture, and are themselves theoretical concepts derived from the analysis, which allow us to see more clearly what this group of teachers, largely experienced and enthusiastic university teachers experimenting with online learning in LMS structures, felt to be important about learning and teaching online.

The twenty-five categories, which develop a picture of how teachers are dealing with the changing technology landscape and their views of readiness, fall naturally into three main groups and have been ordered in relation to

| | | |
|-----|-----------------------|------------------|
| I | The learner's role | Categories 1-10 |
| II | The teacher's role | Categories 11-17 |
| III | The online experience | Categories 18-25 |

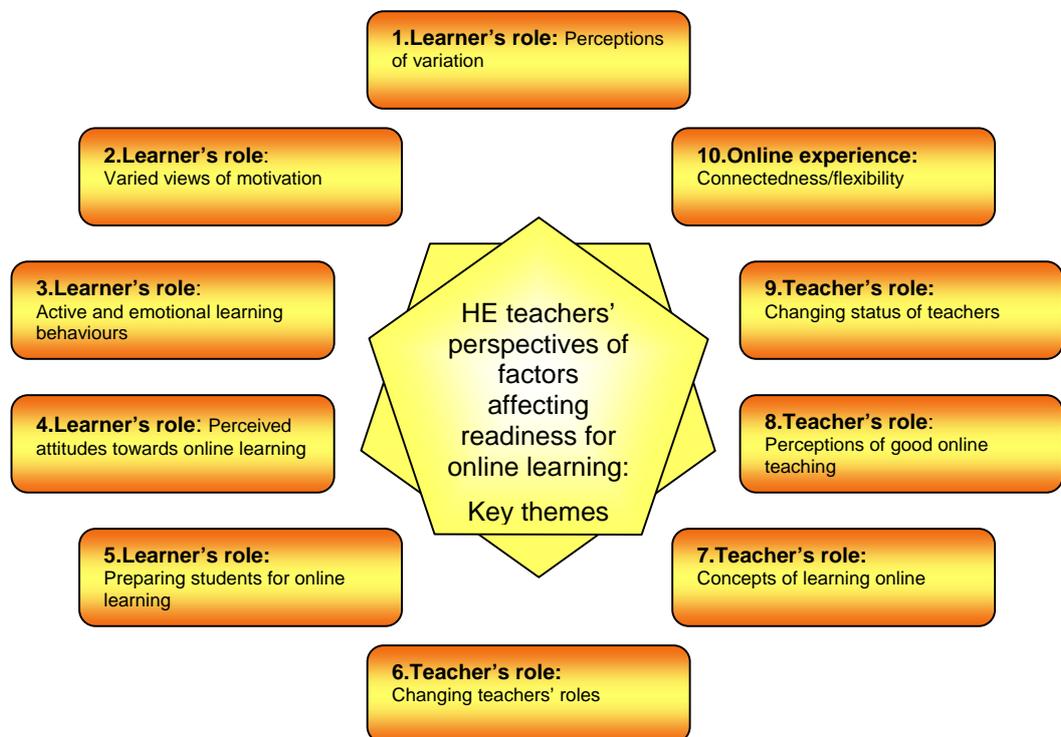


Figure 4.1 Schematic diagram of key findings within the groups: Learner's role, Teacher's role and Online Experience.

[original page in colour]

The presentation of these findings

For each of the three main groups of findings (learner's role, teacher's role and online experience), the findings are presented as follows:

- Introduction of key themes in the findings of this group
- Chart showing how each category is related to a) references and b) transcripts
- Mind map representation of how each category in the group is built of associated idea codes
- Brief description of each finding (category) in the group with reference examples from transcript data and observations on this finding.

Group I. Learner's role and behaviours expected online

The interview analysis produced distinctive categories relating to the role of the learner and how they might be prepared to learn within an online environment. The key themes here are perceptions of variation, varied views of motivation, active and emotional learning behaviours, perceived attitudes towards online learning and preparation for online learning.

Perceptions of variation

The teachers identified differences in learning approaches and strategies, which they saw as related to personal variations, such as the curiosity, determination, maturity and visual learning preferences of students. Personal learning styles such as those discussed by Kolb (activist, reflector, theorist, pragmatist (Kolb, 1984)) were mentioned in the cases but were held to have very little effect on students' behaviours in online environments, nor was there strong support for gender or age effects. The strongest support (in terms of both frequency and the way in which the issue was discussed) for variation in learners' approaches to online study related to prior learning experiences, producing attitude change towards technology. This would affect whether, for example, students were comfortable reading on screen or searching for information online.

Varied views of motivation

Motivation was considered a key factor in students' readiness for online learning but teachers varied in their view of what the term "motivation" meant. Highly motivated students were described as having IT literacy, past experience of online learning, general literacy and enthusiasm for the subject. Motivation was seen as dependent on other variables such as context, interest, design, material, personal background and current personal pre-occupations and could be focussed on learning in general or a particular course or module.

Active and emotional learning behaviours

Students' learning behaviours were considered by interviewees to be more active in online learning, than in face-to-face learning opportunities, based on chances to lead, share, search, articulate and reflect more visibly online. There was a suggestion that learners had more opportunities to take control and behave in more self-directed ways online but to do this meant a shift from initial expectations of teacher control and information giving.

The analysis also produced clear categories relating to learners' emotional response to online environments. Learners were seen by the teachers in this study to show strong emotional responses to computers, usually associated with technology avoidance, fear and uncertainty but these emotions could also be positive excitement and enthusiasm. In teachers' perspectives, the negative emotions stood out most strongly, perhaps simply because these had put up barriers to learning which must be overcome by the teacher and learner. Personal fears and enthusiasms could be triggered by the lack of non-verbal cues when committing text to virtual space – most initial postings to discussion boards were felt to be "pioneer" moves requiring some courage. This may seem similar to an initial contribution in a face-to-face class, yet in that traditional class, it is possible to verify the state of attention, interest and, to some extent, knowledge of the group by non-verbal cues – no such help is generally available in the limited social space of standard learning management systems.

Perceived attitudes towards online learning

Confidence, competence and comfort were widely discussed in the interviews, as variables which affected students' approaches to online learning. A concept of self-efficacy (the question "how good am I likely to be at this?" frequently answered by benchmarking against others' expected and actual performance of the task (Bandura 1977)) was seen to affect students' personal views of the likelihood of achieving learning in an online environment. This expectation was built on various factors – prior learning success, ICT and other learning competences as well as self-belief. Teachers suggested that some students could show low self-efficacy, even learned helplessness (Atherton 2002a), based on ideas from Seligman, although this could have been a transitional issue as more students were introduced to online learning at an earlier stage of their education. With feedback and support, those with negative expectations were sometimes seen to become advocates.

How to prepare students for online learning

There was strong support for concepts in the analysis relating to the preparation of students for online study. Teachers were generally reluctant to talk about "readiness" as a notion, preferring to talk in tangible terms about preparing for study and past learning experiences, so preparation was found to be a more helpful concept than readiness in the interviews. Preparation covered general academic study preparation, as well as technology learning, hands-on practice and a variety of skills and ideas, which teachers believed could usefully be introduced to learners to help them make the most of online learning opportunities. Induction for online study was seen as vital for learners but not consistently offered in HE, where ICT competence was frequently confused with the ability to learn online. Disincentives for online study were characterised by reported perceptions of some learners that "going online" was extra work in addition to normal learning activities. The proportion of the learning group, which communicated visibly, rather than lurked, online could act as a disincentive to others, where that proportion was low or dropping. Site and screen design could be unattractive or difficult to navigate. Teachers believed that learners quickly formed opinions of quality of online content, just as they did of lecturers.

Learner's roles: Graphical summary of references with categories and categories within transcripts

Figure 4.2 shows the total references within Learner's role categories.

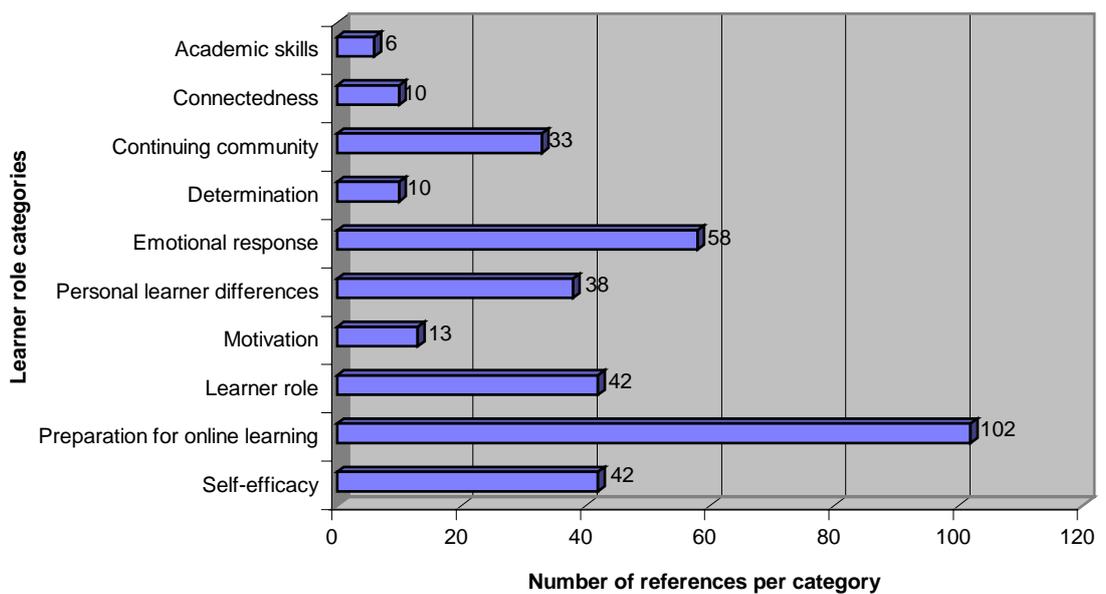


Figure 4.2 References within Learner's role categories

Figure 4.2 shows that a large proportion of the relevant references related to preparation for online learning, due to the focus of the semi-structured interviews and an attempt to talk around students' "readiness". Note that the category is not "readiness" but "preparation" – a notion which will be fully discussed in the next chapter. References directly discussing motivation seem few, largely because the motivation category is a residual or broad category, when other categories attempting to identify and deconstruct motivational issues (eg determination, self-efficacy, learner role) are separately identified. [original page in colour]

Figure 4.3 below shows how the learner role categories are distributed across the transcripts.

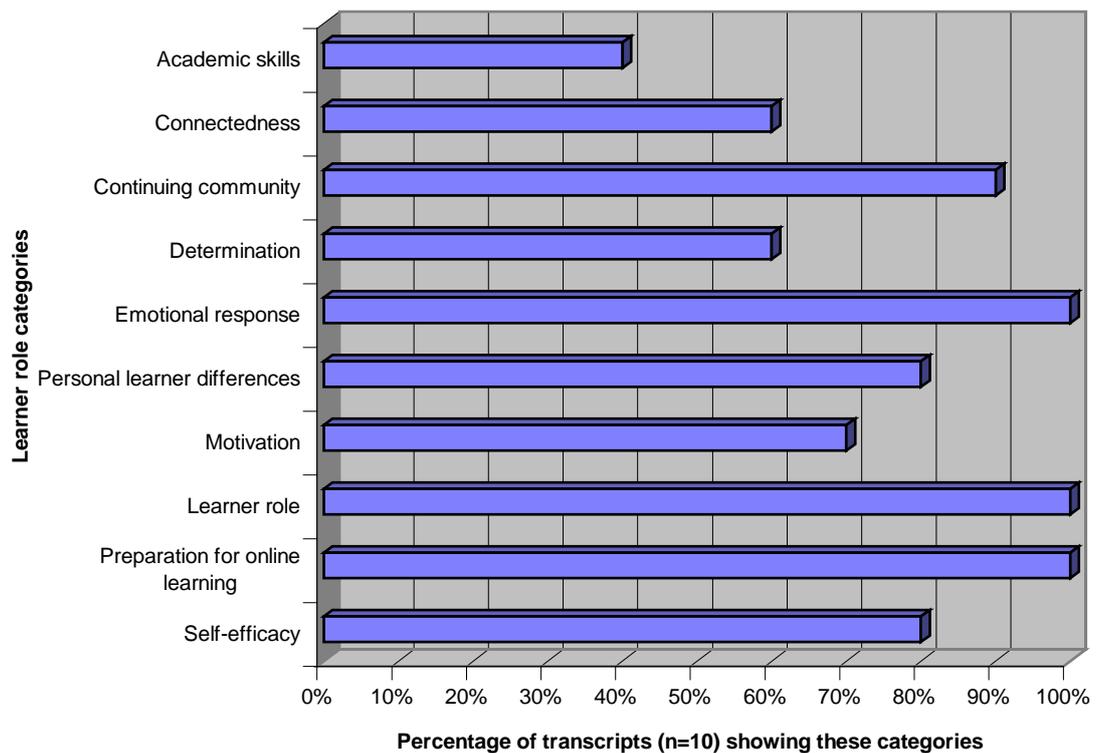


Figure 4.3 Learner Role categories related to transcripts

Figure 4.3 above shows the same learner's role categories as Figure 4.2 but this time shows the *proportion* of transcripts involved in this data. Preparation for online learning and learner's roles were expected to feature in all transcripts, but the finding here that emotional response also features in all transcripts was unexpected. It can also be seen that the category of continuing community of learners is widely discussed (all but one case includes this category).

[original page in colour]

Figure 4. 4 shows how initial idea codes were associated with Learner’s role categories.

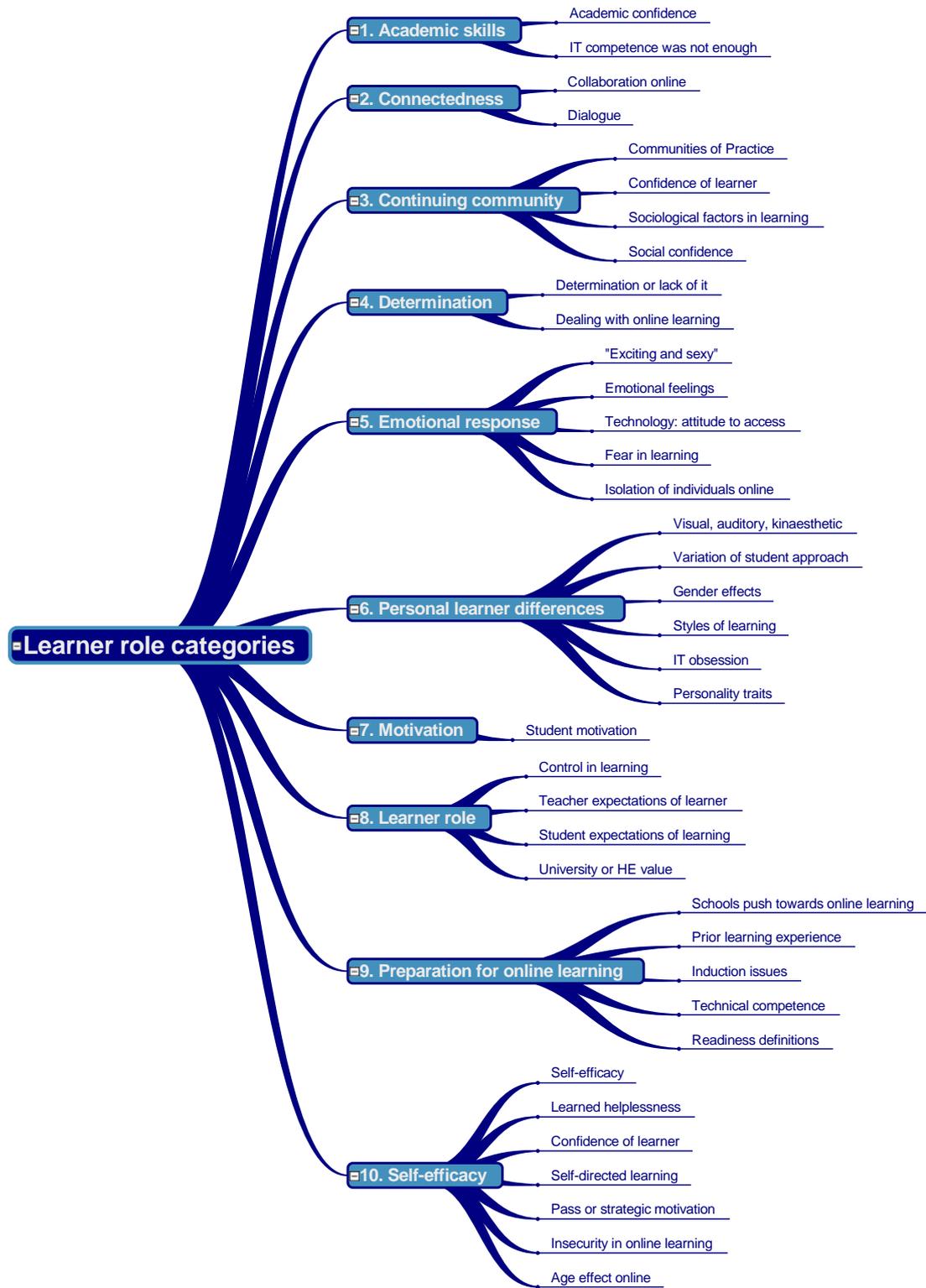


Figure 4.4 Learner’s role categories and associated idea codes in the data

[original page in colour]

Figure 4.4 allows the reader to identify the different stages of grounded analysis from the identification of idea codes in the transcripts, through to the repeated questioning use of these codes to strengthen their meaning and develop an understanding of the contexts in which they apply and the limits of their scope. Some of these idea codes occur only once in one of the transcripts (See Appendix 6 for the frequency of occurrence of references within transcripts and idea codes within categories). For example the idea code “schools push towards online learning” (Sch01), the idea that school education provides a driver to the uptake of online learning, located in category 9 Preparation for online learning, occurs only once in the interviews. In this kind of qualitative research, it is important not to lose specific lone idea codes of this kind, since they provide valid ideas, which may affect the composition of a final category.

The final stage of the analysis groups and themes the idea codes into categories, using a similar process, iterative questioning drives the development of categories, which must both relate to the data through idea codes and develop a cogent and distinctive meaning of their own. In each of these three findings sections, a brief description of the categories is given, with the aim of painting a clearer picture of the substance of each.

Brief description of the learner’s role findings

1. Academic skills

Finding:

Familiarity with ICT and the digital world did not equip students for academic study online

Example:

“...they are probably used to using Microsoft Word, perhaps other applications, but that’s very different from being experienced in learning online” Reference code 463/106.5/com01

Observation:

This category describes an important difference between the practice of academic skills used in a traditional face-to-face context, and those assumed to be applicable online. In a traditional context, students are introduced to academic skills via study skills modules or induction, as well as through classroom practice. In an online environment, teachers’ responses suggested an assumed familiarity and capability of “digital” students to understand suitable academic skills for use online. The assumptions were based on the idea that students capable of surfing the Web must understand how to apply academic search skills online. Similarly with writing, rules intended for essay and problem solution in

a traditional context were assumed to be effective in discussion boards. The interpreted information suggested that academic writing in an online context, as well as discussion, problem-solving, knowledge construction, evaluation and analysis and synthesis of argument online, would not necessarily transfer from the traditional context, but needed to be introduced in that context. High ICT skill did not relate directly to academic skill online.

2. Connectedness

Finding:

In HE online environments, one-way transmission of information, eg by simple text and graphics online, was not usually seen as effective; learning was more likely to happen through interactive discussion, synchronous and asynchronous.

Examples:

"...learning happens online; it's a process of dialogue primarily" Reference code 843/104.1/dia01

"...one of the surprising things we found was that actually the dialogue was much, much richer online than it was f2f" Reference code 477/106.10/dia01

"...also you get students to look for material that you think are useful, then people learn to share - collaborative learning" Reference code 137/101.18/col01

Observation:

This concept emerged from discussions about the responses of students online and how their non-study lives involved increasing familiarity with the Web and more or less instant forms of communication. As people become more familiar with digital habits of shopping, leisure, formal and informal communication and information search, so the process of communication and problem solving acquires speed and expectations of response. In the HE context this implied response, or potential response, from experts, practitioners and academics beyond the module, course and faculty where a student was located. The connected nature of learning online improved opportunities to debate, share, critique in more than one group and context. At the same time this brought challenges to attempts by teachers to own the debate.

3. Continuing community

Finding:

Online environments could provide a sense of belonging to a community for individual learners and teachers, which mediated the physical isolation of online learning

Examples:

"I think there's this sense of community thing that I was talking about, so they're learning to be part of a community, giving feedback, being, to some extent, tutors as well as students, to help grow in confidence" Reference code 295/103.24/cop01

"...of course there's social constructivism but more importantly from a fresher perspective it provides that continuing community feeling of being supported of being able to voice concerns, worries, difficulties and to have some effect on the shape of, for the student to feel that they're getting learning, sort of guided towards them" Reference code 319/104.4/con01

Observation:

This concept, "continuing community", which uses words from one of the transcripts, describes the sense of community felt in the imagination by those connected online through discussion, question and answer in virtual synchronous or asynchronous ways. It throws into contrast the isolation of the individual in the company of a computer with the group of people connected through the VLE or other software. The concept combines ideas of support and guidance, mutual feedback, social belonging and social confidence, but all facilitated through a virtual connection. This is quite distinct from a hierarchical, teacher-led learning experience confined to physical space and time. While the face-to-face teacher can provide support and feedback, the experienced connection may be more transitory and less personal than is possible online.

4. Determination

Finding:

Determination was one of the few characteristics, which could be linked to personality, seen to affect success in online learning.

Examples:

"...some personalities are better at dealing with, overcoming obstacles really, and some personalities aren't" Reference code 271/103.10/det01

"...some of them maybe lacked basic.. well they gave up too quickly" Reference code 64/100.13/det01

Observation:

One of the few personality characteristics or attitude features which seemed to be associated in the data with successful online interaction. Computers provide many irritants and problems for individuals to solve, sometimes simply to get connected, certainly to find specific information or links. Determination was related in the data to ideas of high motivation to achieve online learning activities such as exploration, discussion and contribution. Its opposite was considered to be laziness or lack of motivation.

This could be a transitional effect until the technology improves sufficiently to make access and search simple for most people, just as motor vehicles have become "black boxes" but can be picked up and used with little technical knowledge, the trend in most software and learning platforms is increasingly to hide the technical foundations. However, the difficulties some feel they have to overcome to work online may be a situation exacerbated by doubts in some minds (both learners and teachers) that online learning is a legitimate HE activity.

5. Emotional response

Finding:

Online environments for learning tended to evoke a more emotional response from students than traditional face-to-face environments.

Examples:

"...sometimes the student will get their imagination totally captured to something that they've never done before, because it's new, it's technology and they think "wow" and so they then find a new world. And it captures their imagination." Reference code 440/105.24/exc01

"I do remember one particular student who was very emotional and ended up screaming and shouting and crying in the room. Because she was so frustrated with her fear. I mean it was blind fear actually." Reference code 246/103.5/emo01

Observation:

The interviews showed much discussion of emotion in relation to computer use, both in relation to perceived fear and anxiety as negative emotions and excitement as positive emotion. Learners were associated with often strong emotional response to HE activities online. In the negative sense these responses were perceived by interviewees as

technology avoidance, fear and uncertainty. The prime issues for the anxious learner were perceived as worries about access and early stage search problems. Personal fears, or other strong emotions, could be triggered by the lack of non-verbal cues, when committing text to virtual space via a screen and keyboard; all these artefacts could, from the perspective of these interviewees, create layers of fear and personal irritation, including anger. Initial postings to discussion boards were perceived as fearful for many students at a higher extreme perhaps than initial contributions to classroom discussion face-to-face. The positive dimension of the emotional response was associated with the use of new online environments and learning objects or tasks where excitement and enthusiasm were drivers to achievement. The information suggested that these teachers' personal enthusiasm for the medium had a role in promoting experiment and contribution online.

6. Personal learner differences

Finding:

Active self-directed learning behaviours or approaches were seen by most teachers as essential for successful online learning, while learning "styles" were not seen as having much impact on outcomes.

Examples:

"What about learning styles and preferences? I don't believe in them. Because students will take a different approach at a different time in a different circumstance, depending on what they're doing and what the outside pressures are." Reference code 655/108.16/vak01

"I think the students that do well are the ones which are more happy and comfortable at being independent learners, free thinkers, who are more comfortable with going away and doing their own reading and their research" Reference code 515/106.26/sdl01

"...it does depend on the student. Some of them thrive in whatever environment you throw at them, no matter how bad it is" Reference code 368/104.18/var01

Observation:

In relation to online learning, personal differences among learners identified in the data included curiosity, maturity and visual learning preferences. While interviews included discussions of age, gender and learning style and approach differences, none was considered to be relevant to readiness. The strongest support for variation between learners related to prior learning experiences producing attitude change towards

technology and more evidence of self-directed learning activity. Self-direction was seen as a successful strategy in online environments and was associated with an adult or mature learning approach, higher learning motivation and curiosity.

7. Motivation

Finding:

“Motivation” was considered a key factor in students’ readiness for online learning but teachers’ notions of motivation varied considerably.

Examples:

“...there are some people who really do just want the answer and I think for them, online learning’s particularly hard ” Reference code 825/102.12/mot01

“...it’s very much a motivational thing, that’s the aim, to connect your learning to your own needs and understandings. It’s totally central to what we do. But if they do it well, that’s true whether you are online or not” Reference code 375/104.21/mot01

“There will be factors that will contribute to people being more successful and you are back into this motivation commitment bit and why they’re doing it, it’s about self discovery” Reference code 441/105.25/mot01

Observation:

The discussion of motivation in the transcripts is problematic as teachers varied in their concepts and definitions of motivation. While motivation was considered a key factor in students’ readiness for online learning, it was hard to pin down a specific perception of motivation. This umbrella term included relating high motivation to IT literacy, past experience of one or more kinds of online learning, general literacy and enthusiasm for the subject, or course achievement. Motivation could be seen as dependent on other variables such as context, interest, design, material, personal background and current personal pre-occupations, and could be focussed on learning in general, learning online in general, particular experiences of online environments – some innovative, some prescriptive - or a particular course or module.

8. Learner’s role

Finding:

Behaviours associated by teachers with successful online learning were described as more “active” in relation to both the materials and the tutor than in a face-to-face environment.

Examples:

"Some of them see the opportunity for learning more about a particular topic, going beyond their immediate task of solving the problem on that particular day because they all have breaks and they are encouraged to use the equipment during breaks and before work and after work...so that is a really good example of online learning." Reference code 550/107.9/lea01

"...they've got their act together and used studentcentral, use the Internet for searching and for the library catalogue, use all the things they can get their hands on, with our amazing world of access and of the library, but also their action learning, using the discussion boards, in their action learning sets." Reference code 426/105.9/tea03

Observation:

Learners were considered to be more active in online learning than in the classroom. The pro-activity consisted of a chance to lead, share, articulate and reflect more visibly online. Learners were perceived to have more opportunities to take control and behave in more self-directed ways online, but to do this meant a shift from early expectations of teacher control and information transmission. These teachers' perspectives of a successful learner's role online was active, responsible and self-managed.

9. Preparation for online learning*Finding:*

"Readiness" for online learning was a notion which teachers in this study found difficult to pin down; however they were comfortable with the components of preparation for online learning, which included competence with the technology plus personal access issues, learning environment navigation, access to online library, relevance of the medium to learning, online referencing, information search, website evaluation, understanding the audience for online writing, practice in posting to asynchronous discussion boards, clear operational information about session times and expectations of tutors, personal tutor contact, learning group familiarisation.

Examples:

"It is a combination of people's engagement with a computer and willingness to engage with that and their prior learning experiences and their confidence and all those sorts of things" Reference code 766/109.36/rea01

"I didn't find that students were ready to commit to typing messages that had opinionated academic content, choices made by them about meaning, without a lot of support and scaffolding mechanisms" Reference code 159/102.1/rea01

"I think their readiness actually probably gets there within 6 weeks" Reference code 864/105.6/rea01

"...it's the preparation, the setting up of it, that's as important as the actual activity." Reference code 768/109.36/ind01

Observation:

This study focussed on "readiness" for online learning, but many interviewees were reluctant to explore the concept of readiness, preferring to identify what students needed to do (preparation) rather than a stage they might have to reach and how to define this. Thus preparation proved a more helpful concept in discussion and covered academic study preparation, as well as technology learning, hands-on practice and a variety of skills and ideas, which teachers believed could usefully be introduced to learners to help them make the most of online learning opportunities.

Induction for online learners was a key and frequently occurring theme in the data, however the overwhelming view was that insufficient induction or preparation was achieved in HE, where ICT competence was often confused with the ability to learn online (see category 1 Academic skills which elaborates the proposition that digital familiarity did not equate with knowing how to perform academic tasks online).

10. Self-efficacy

Finding:

Learner's perceptions of their ability to achieve online learning was seen by teachers to be related not only to their own self-confidence but also to their view of their ability in relation to others in the learning group.

Examples:

"...she's got IT GCSE, she rings me up every time something goes wrong with the computer. It equates to "I cant do this, I cant remember how to", whereas my son will try to work it out." Reference code 626/108.6/hel01

"...for a student who is reliant on a high level of that type of reassurance or clear meaning being passed on by the person on the stage, the guy on the side isn't enough for them. They're left feeling, yes, but have I really got it? I don't believe that I have because I haven't heard the lecturer say it to me" Reference code 224/102.12/ins02

"In non-institutional settings where this sort of learning goes on, I think there's a number of listservs and things I'm involved in. A lot of people tend to lurk for a while and build up an image or an understanding of the relationships between the people who are in there already, the kind of things they're talking about, and then start making their contributions." Reference code 880/104.22/sef01

"very scared, very unconfident, and actually ended up being the best" Reference code 830/103.6/con03

Observation:

Confidence and comfort (as in ease of dealing with) both the technology and the online tasks were seen to affect students' approaches to online learning. Bandura's concept of self-efficacy (1997) was seen by teachers to be answered by benchmarking against others' expected and actual performance of the task, frequently by "lurking" before contributing. Students' personal views of the likelihood of their achieving learning in an online environment was built on varied factors – prior learning success, ICT and other learning competences as well as self-belief. Teachers reported students showing low self-efficacy, even learned helplessness, although this may be a transitional issue as more students are introduced to online learning at an earlier stage of education. With feedback and support, those with negative expectations could and did sometimes become advocates.

Group II Teacher's role and beliefs about teaching: introduction

The key themes here are changing teacher's roles, what constituted learning in online environments (specifically university LMSs), what was considered to be good teaching and perceptions of the changing status of teachers.

Changing teacher's role

The analysis produced categories relating to a teacher's role and pedagogy, which suggested the notion that teachers' behaviours had to change to take advantage of, or keep pace with, changes in the use of technology in HE learning. In the context of the Web, teachers' expert status was challenged. A good teacher was considered to be no different online from a good teacher face-to-face, in the sense that activities such as:

- awareness of students' needs,
- levels of understanding and knowledge,
- ability to plan effective learning experiences,
- ability to communicate accessibly and
- to stay in touch not just with current discipline knowledge but also with contemporary influences on students' learning

would be just as vital. Yet the ability of that teacher to influence the learning experience was seen to be more marked at an early stage in online environments. There were also differences between teachers' beliefs, which were most distinct for those teachers who

remained content-centred and teaching-centred rather than learner-centred. This relates to Alexander's finding, in her online study with McKenzie conducted in 1998 (discussed in Alexander 2001), that teachers' views of learning ranged from increasing students' knowledge to developing understanding in students, although the data in this study suggest the priority focus is the teacher's belief about learning or instruction, rather than the outcomes they wish to bring about.

What was considered to constitute learning in online environments?

Teacher views of evidence of learning in an online environment differed considerably in the data, according to their primary focus. The following figure 4.5 summarises ideas related to learning, in respondents' words, according to that focus.

| Content focus | Teaching focus | Learner focus |
|-----------------------------|--|----------------------|
| Doing it (e.g. an exercise) | Not pre-planned knowledge acquisition packages | Self-management |
| Saying things about it | Role-modelling | Feedback to others |
| Reproducing it | Shaking conceptions | Self-discovery |
| | | Personal change |

Figure 4.5 Variation of pedagogic belief found in the data

What was considered to be good online teaching?

The studied group of teachers generally saw more opportunity in online learning to move away from an industrial model of input and output. Different views of pedagogy drove different online activities, different assessment and control views and expectations of learning inclusivity versus "one size fits all".

Effective online teaching was characterised in the data by:

- 1 detailed planning,

- 2 team-working with learning technologists, technicians and administrators,
- 3 role-modelling learning from multiple media,
- 4 sensitive moderation and facilitation of discussions,
- 5 legitimation of learners' contributions,
- 6 provision of effective frameworks for thinking and learning,
- 7 a preparedness to innovate and experiment alongside learners,
- 8 giving support and constructive personalised feedback,
- 9 being able to share control with learners.

Perceptions of changing status of teachers

The analysis revealed the idea that teachers (and learners) can attain a different status online from that experienced in the classroom. Teachers can experience a loss or alteration of status in comparison with learners, which may be due mainly to the lack of appearance and body language cues online. At its simplest, the position of a teacher at the front of the classroom signals leadership and status, and this is not necessarily evident online, even in Blackboard® environments which appear to emphasize “instructor” status. There is a greater experience of equality, which can favour students, in particular quieter students who would be less likely to join in discussion in class. This equality can be further encouraged by the use of avatars or online names, changing to some extent the persona taking part in online communication.

Linked to the idea of virtual status was a conception in the data of an idea space in online environments. This related to a space for ideas to emerge and attract comment and criticism, which is assumed in a physical classroom but which, online, seemed to take on some different features due to the textual nature of online communication. In the physical classroom, this space is primarily occupied by the teacher and more outgoing speakers, whereas online, teachers interviewed in this study found that access and timing would determine occupiers of the idea space rather than personality or status.

Teacher's role: Graphical summary of references with categories and categories within transcripts

Figure 4.6 below shows the numbers of references in each teacher's role category.

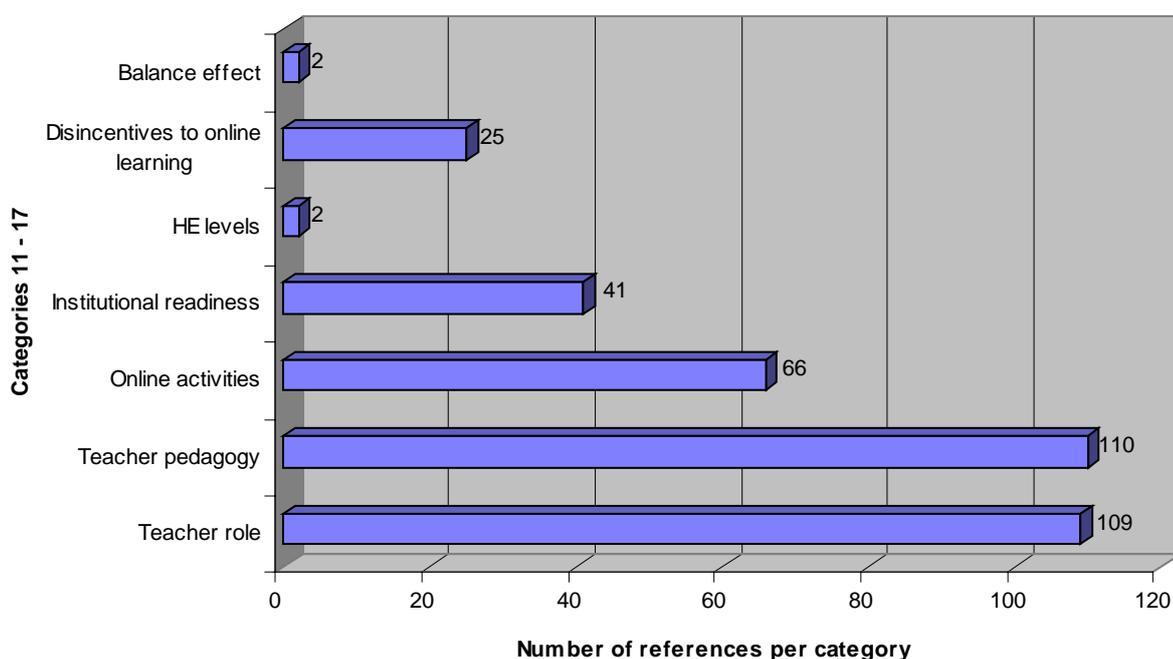


Figure 4.6 References within Teacher's role categories

Figure 4.6 shows two categories with very few references: HE levels and Balance effect. In a quantitative study these could be discounted, but the qualitative approach allows us to explore their meaning; these two ideas are particularly important in relation to understanding teachers' reluctance to participate in online activity design, as will be discussed in the next chapter.

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Figure 4.7 shows the percentage of transcripts with references in teacher's role categories.

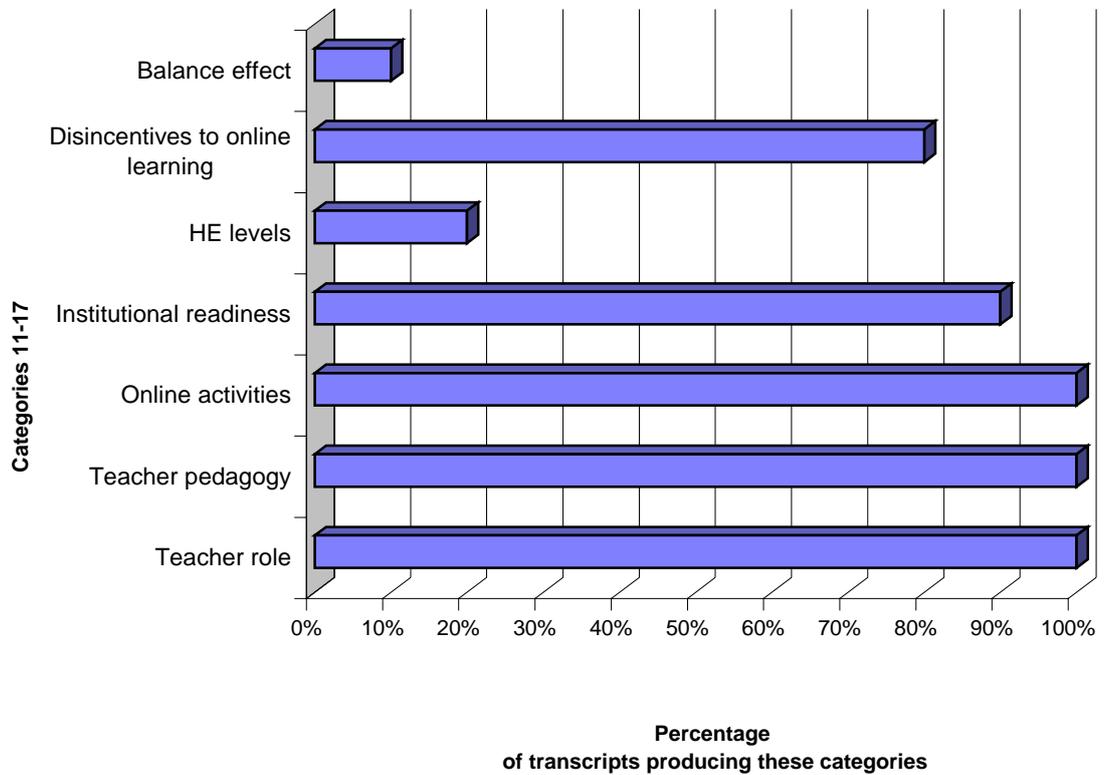


Figure 4.7 Teacher's role categories related to transcripts

Figure 4.7 shows a similar picture to Figure 4.6 but clarifies that HE levels as a category is featured in two transcripts, while the idea of a "balance effect" is featured only in one transcript. However, as discussed above, this does not invalidate their inclusion as important categories in the data while theories are being constructed. Other categories are clearly represented across most transcripts.

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Figure 4.8 shows how initial idea codes were associated with teacher's role categories.

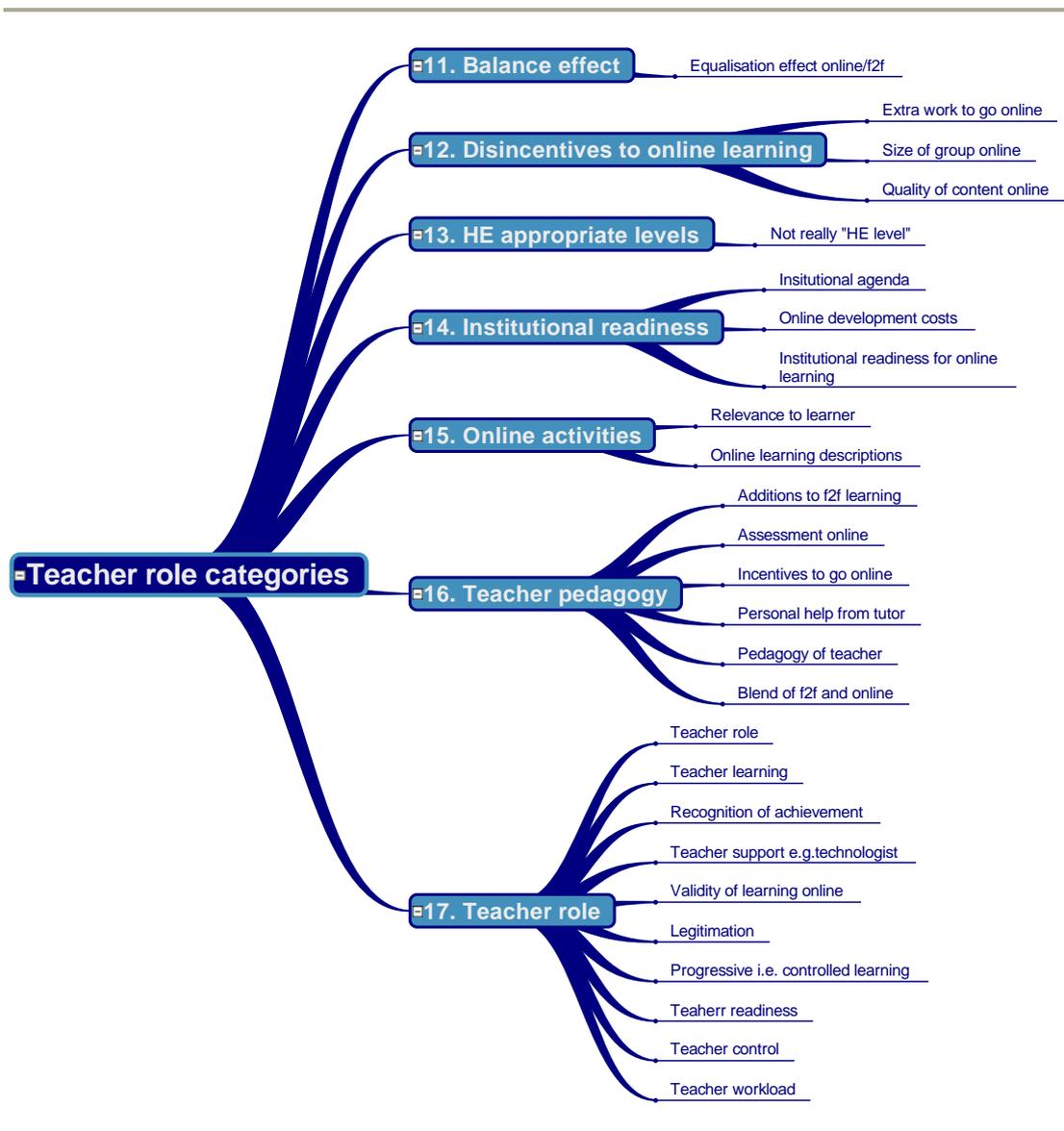


Figure 4.8 Teacher's role categories and associated idea codes in the data

Figure 4.8 illustrates the considerable number of idea codes relating to the evolving teacher's role in respect of online learning environments, and a proliferation of references to teachers' pedagogies. These were both key areas for the research study and arose not simply from direct questions in interviews but more from the ways in which teachers spoke about learners/students in relation to their online teaching designs and experiences.

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Brief description of the teacher's role findings

11. Balance effect

Finding:

Blending face-to-face and online learning modes offered the opportunity of providing for a wide range of learning approaches, including those who found it difficult to learn online.

Example:

"...the fact that there tends to be a sort of equalised effect in e-learning." Reference code 344/104.11/equ01

Observation:

Blending face-to-face and online learning experiences can allow for optimum opportunities for learning in different styles and ways. The issue of balancing of learning opportunities for different learners' needs, which may themselves vary over time, suggested the idea of compensation in one mode for the other's deficiencies, or the adding of positive layers of support and learning in juxtaposing both modes. This may, however, confuse through complexity or be perceived as extra work by learner and/or teacher. This concept raises a relevant issue for the pedagogic design of blended modes.

12. Disincentives to online learning

Finding:

Specific disincentives to online learning included a perception of extra effort to that required in traditional classroom learning, as well as online design and online participation of other learners.

Examples:

"...they saw it as being an extra piece of work" Reference code 715/109.7/ext01

"...you'd have to be sensible about the number of students in the seminar groups of about 15 say. And don't think because it is online you could cram it out with 20 or 30 students" Reference code 871/106.24/siz01

"...the raw material that I got, you could see very clearly that some of the lecturers had not really given thought about, if I'm a student sitting there, what will trigger my imagination, what will make me want to use it more?" Reference code 90/101.5/qua01

Observation:

Teachers saw some learners classifying “going online” as extra work in addition to normal learning activities. The proportion of the learning group which was active online could also act as a disincentive to others, where this proportion was low or dropping. Site and screen design could be unattractive or difficult to navigate. Learners were seen to form opinions quickly about quality of online content, and act accordingly, just as they do regarding perceived quality of lectures.

13. HE levels*Finding:*

The connectedness of Web-based HE materials would facilitate comparisons across institutions of both quality and level.

Example:

"...that works as long as education and training takes place in confined spaces where the staff produce the reading lists and they produce the books and they tell you what research method you've got to use..they set the exam and they give the lectures ..." Reference code 881/107.16/not01

Observation:

The level of material and activity which is considered appropriate to HE level work has traditionally been the province of academic staff within institutions, now represented by the Quality Assurance Agency (QAA) and made explicit in the form of learning outcomes and descriptors. Web connections and an online world of learning activity was seen to challenge this supremacy of judgement. Teachers would no longer be able to confine a discussion of level to internal academic opinion, but could be easily compared with other institutions in terms of content and level. This kind of openness was seen by some interviewees as a positive change, while recognising that not all academics would feel the same.

14. Institutional readiness*Finding:*

HE institutions' LMS buying decisions have not generally included effective discussion about pedagogic implications.

Examples:

"...the CAA they actually have a policy nationally to try and help this assessment online. But when you look at the university and the policy, I could not see anything on there." Reference code 789/101.8/ins03

"...our institutional structures are essentially saying, do what you do face-to-face but now do it online. It makes no sense at all" Reference code 385/104.25/ins01

Observation:

Pragmatism rather than strategic direction was associated in the data with VLE purchase decisions. A lack of consultation with groups including academic staff and students was perceived. Cost-cutting agendas and under-estimation of costs associated with re-designing materials and moderating online discussions was held to explain the isolation felt by pioneering teachers who behaved as early adopters of the technology. Institutional adoption of VLEs was held to involve greater team-work between academic and non-academic staff.

15. Online activities*Finding:*

The group of teachers interviewed identified a wide range of online activities expected of students, most of which involved interaction rather than simply reading text, and stressed its relevance to the workplace.

Examples:

"...so we've been trying to develop towards enabling students to interact with the system without letting them create havoc" Reference code 685/108.28/oll01

"I ask students to work around material that is of meaning to them - in other words it's work-based. They take a project or proposal from their own workplace and then I'll ask that they peer review at least two other people's proposals or projects, and there will be more of a dialogue that emerges naturally from the stimulant that they have to go and find two other proposals and review them. I might typically expect 3 or 4 rounds of postings and response in that." Reference code 211/102.10/oll01

Observation:

Teachers' expectations of online activity included relevant searching, reading within the course site and beyond through weblinks, posting messages and discussing, posting other artefacts and critiquing, following prepared courses of study, viewing, reviewing and evaluating information, reflecting and sharing through blogs, wikis and journals, doing

tests and surveys and producing revision notes. These activities involve considerable interaction and contribution online, in addition to the more passive activities of attending and reading.

16. Teacher pedagogy

Finding:

Teachers' views of learning, and what online learning offered, differed considerably and this affected online learning expectations and design

Examples:

"As a complement and as a revision aid" Reference code 776/100.7/add01

"I think that what students want isn't necessarily what will achieve the best learning experience for them and that confronting, doing things that are difficult is good for students. So I feel quite harsh.." Reference code 180/102.5/ped01

"We tried to create it so that it was an adventure, there were things that they could come across, they could create their own journeys through it and develop their own materials from it" Reference code 644/108.11/ped01

"My primary interest in online learning is using tools to allow communication that couldn't happen face-to-face". Reference code 310/104.2/ped01

"I don't think you can have any learning unless there is a proportion of self management to it." Reference code 435/105.13/ped01

Observation:

Views of learning in the data showed considerable difference, particularly views of online learning. Examples included:

- "doing it",
- "saying things about it",
- "reproducing it",
- "shaking conceptions",
- "self-discovery",
- "virtual feedback to others",
- "self-management",
- "informed dialogue",
- "not pre-packaged planned knowledge acquisition",
- "role-modelling",
- "research technique",
- "personal change".

This group of teachers generally saw more opportunity in online learning to move away from an industrial model of input by teacher and output by student. Unsurprisingly, different views of pedagogy drove the design of different kinds of online activity, different assessment and control views and expectations of learning inclusivity or “one size fits all”.

Pedagogic differences ranged from those who saw students’ variation as a non-issue, related mainly to students as a homogeneous group rather than as individuals and provided standardised online design, to those who focussed on students’ variation, finding the extra dimension of personalisation available online as a major consumer of time and energy but a source of greater potential learning in the relationships between teacher/learner and learner/learner.

17. Teacher’s role

Finding:

The teacher’s role has to change to take advantage of or keep pace with changes in use of technology in HE learning

Examples:

*“...the teacher is taking less of that role of expert because it is difficult to be expert”
Reference code 668/108.21/tea02*

“...one is the relationship between the teacher and the student. Teacher is no longer the guardian of the knowledge.” Reference code 571/107.16/tea02

“if you are a teacher and you think you want to use.. to capitalise on online learning and online support, then you need to be showing that you yourself as the teacher are using it as part of your teaching.” Reference code 85/101.4/tea02

Observation:

The interviewees responses produced support for a challenge to teachers’ expert status. There was a clear contrast between those teachers who remained content-centred and teacher-centred and those who set out to be learner-centred. With the latter group there was more evidence of preparedness to innovate online, an awareness of much learning to be done by teachers about how best to use online opportunities for learning, and a preparedness for students to take the lead online.

Group III The online experience: introduction

The key themes here were all concerned with current snapshots in the transition of LMSs, that is the reality of the current LMS facing teachers and their view of its potential for the future, largely focussed on connectedness and flexibility or plasticity of the online environment.

Connectedness and flexibility

The data included a rich collection of expected behaviours and outcomes which related to the opportunities afforded online for connectedness. Two categories in the data exemplified this connectedness and difference – those of time flexibility and online plasticity. Plasticity in this sense is defined as a medium which is capable of moulding and adapting to usage.

The time flexibility afforded in theory by most online environments was seen as bringing a variety of benefits to learners in HE provided IT access issues could be overcome. Asynchronous communication, in particular, included opportunities for increased reflection and critique and allowed learners who would normally be held back in classroom discussion by barriers to spontaneous contribution (such as a reflector preference, or a native language other than English) to take a more considered and active part in online collaboration. Even for those whom text based learning traditionally caused problems, such as learners, or teachers, with dyslexia, the time space afforded by online environments could allow opportunities for checking and fully contributing at the same level as those who were fluent text-writers. Time flexibility also allowed a level starting point for part-time students, who could choose to interact socially as well as through academic activities at times convenient to them. We must bear in mind that this group of cases was always going to see advantages in online environments: their professional practice was committed to such designs. Therefore we should not take the enthusiastic descriptions of the possibilities of online learning to represent a widely transferable reality. However, these descriptions help us to understand the features of online environments, which trigger the enthusiasm of this group, and which will affect what they wish students to engage in.

The plasticity or flexibility of the medium, not simply to support any subject discipline, but also any time, place and mode, allowed individuals to relate to the online environment

differently from the classroom environment. The data supported the notion of moulding and flexing an online environment around a syllabus, both by teachers and learners. This was not simply about affording learners choice but enabling engagement with learning activities and purposes at varied levels depending on learners' motivation and strategy. Teachers saw the LMS as an environment, providing malleable context and space as well as tools for thinking and learning. Teachers could use this plasticity both to offer a range of pathways towards learning and to communicate with and support individual students differently from others according to their needs and progress. Learners, too, could use this plasticity to take control of their learning journeys through material and courses.

Online experience: Graphical summary of references with categories and categories within transcripts

Figure 4.9 below shows the data references attributed to the online environment categories.

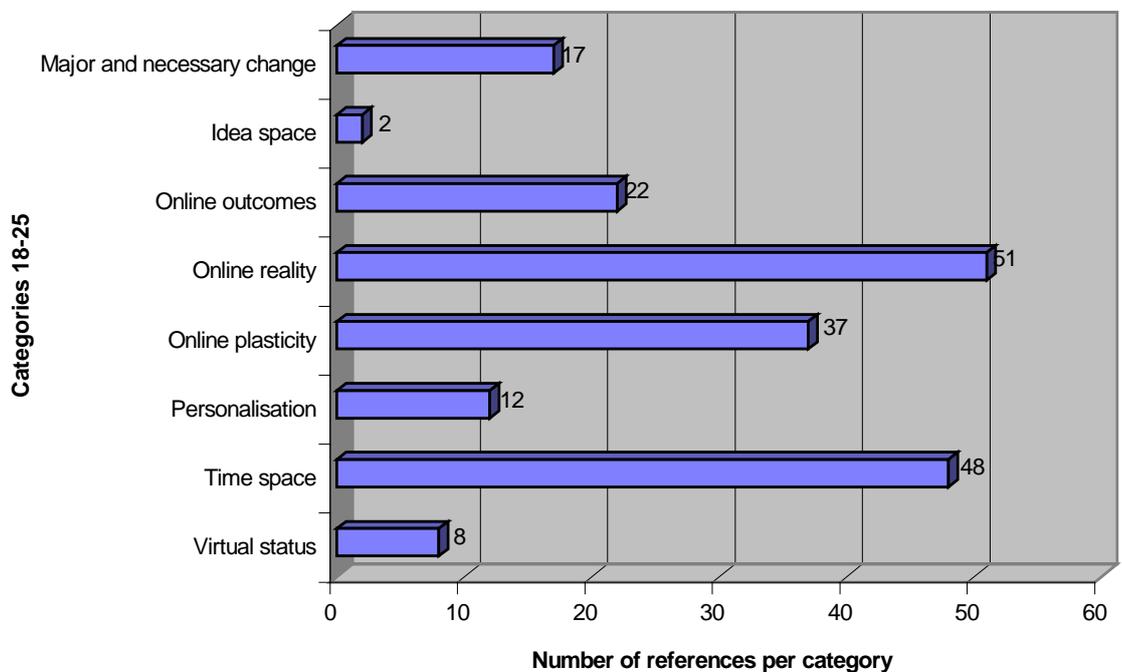


Figure 4.9 References within the Online Environment categories

Figure 4.9 shows a variation of spread of references across these categories, with one category in this group showing a very small number of references, that of “idea space”. Categories relating to online reality – broadly what actually happens in HE teaching online [original page in colour]

for these teachers – and online plasticity and time space are strongly represented by large numbers of references. The number alone is not of particular importance, but in view of the trust the reader must have in the data and method, in order to have confidence in the resulting findings, it is considered helpful to show how these categories relate to specific references.

Figure 4.10 below shows how categories in the online environment group, based on idea codes, are distributed across the transcripts.

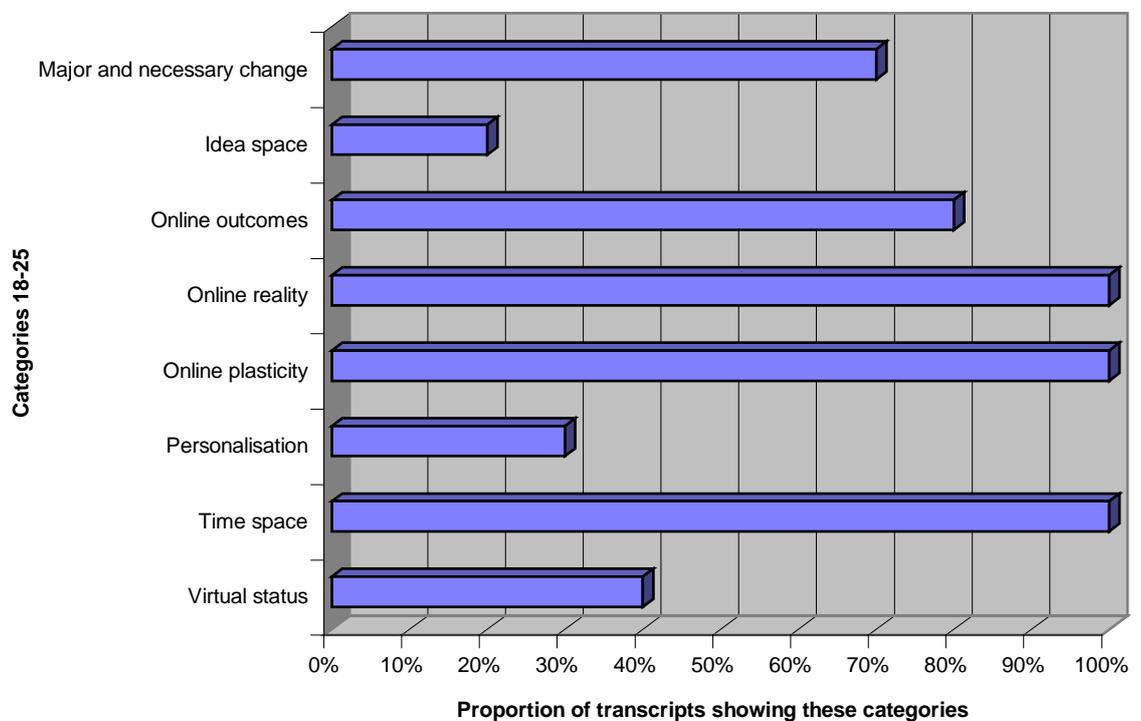


Figure 4.10 Online Environment categories related to transcripts

Figure 4.10 shows that most transcripts discussed these categories – all of them discussing ideas related to online reality, plasticity and time space. Ideas relating to personalisation and time space are represented in fewer transcripts.

[original page in colour]

Figure 4.11 shows how initial idea codes were associated with online experience categories.

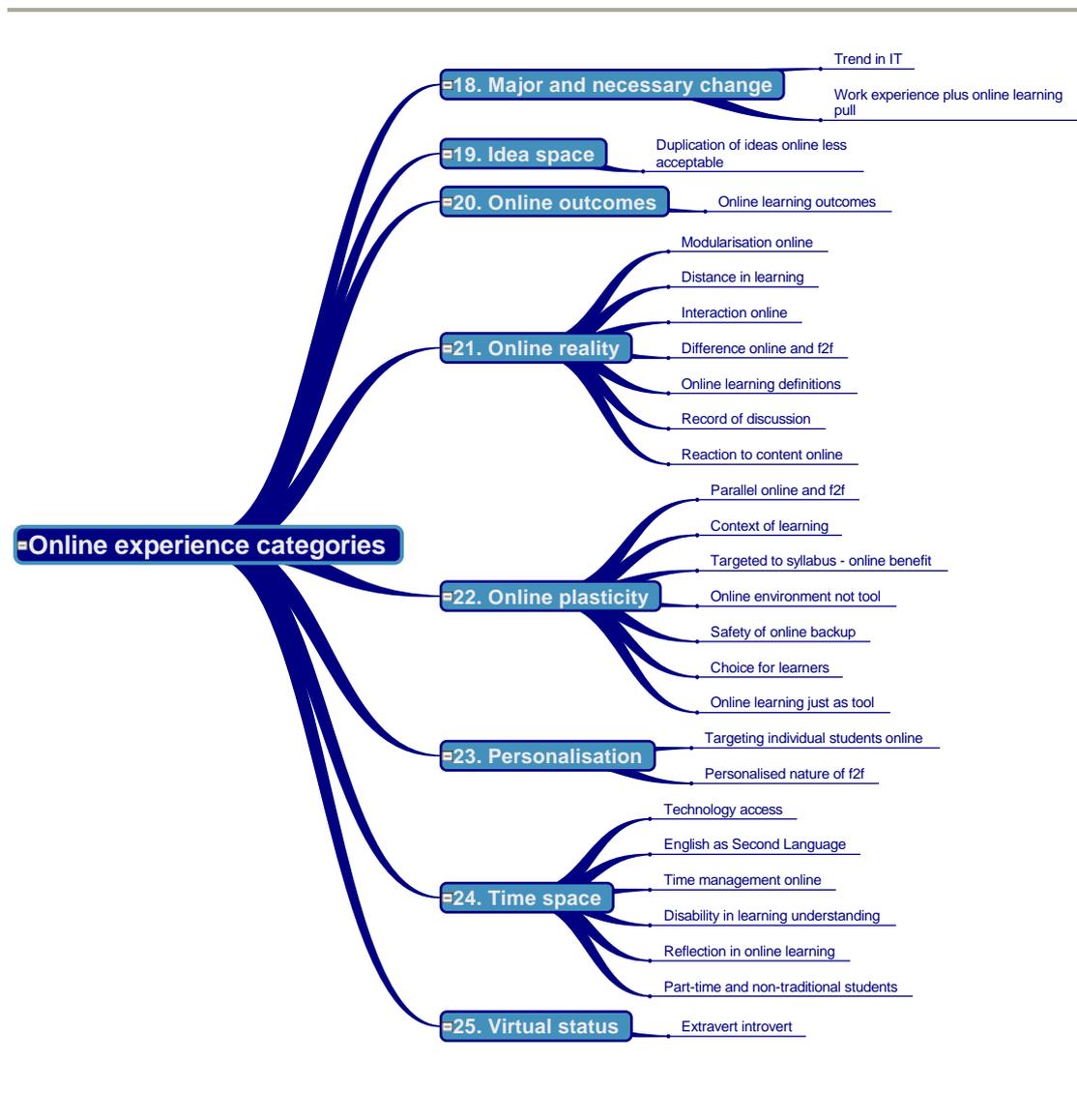


Figure 4.11 Online Environment categories and associated idea codes in the data

Brief description of the online environment findings

18. Major and necessary change

Finding:

the widespread introduction of VLEs over the last five years in the UK had been a major stimulus to a review of pedagogy, but this group of teachers considered themselves still in the minority in adopting online environments for learning purposes.

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Examples:

"...a lot of people in HE have been in HE a long time, which is not a bad thing, they have a lot of experience. However, they probably came into HE before computers even existed" Reference code 671/108.22/tre01

"...we've had so many occasions where our tutors have dreaded interfering in discussion forums and say, we'll discuss that in class." Reference code 882/104.16/tre01

Observation:

This category reflected the perspective of the interview group, all of whom were strongly conscious of a transition in HE brought about by the introduction of Virtual Learning Environments. The change involved more than the simple introduction of technology. The category was characterised by an awareness of increasing digital familiarity for both teachers and learners, as well as the workplaces for which the Higher Education experience aimed to prepare learners. The concept was that of a major and necessary change from the perspective of teachers, and their views of learners and workplaces. This was, of course, a view coming from a group of enthusiasts for LMS use in pedagogy. They saw HE systems as having to change and improve to adapt to the increasing pull of digital technology. They were opposed to "electronic page-turning", in other words the simple uploading of pre-existing teaching materials, but were aware that many colleagues were doing just that. They believed the change involved a necessary review of pedagogy, as the world of learning experienced a major shift and the HE infrastructure needed to adapt to this shift. The change was being driven by the impact of increasing communication and information technology dependence outside HE, affecting individual lifestyles and workplace communications, processes and outputs. The interview group saw themselves clearly as the pioneers of this change, although most individuals were modest about their personal expertise in the area, and almost all saw the adoption of LMSs and their use in learning as a necessary addition to their skills and subject expertise.

19. Idea space*Finding:*

Compared to traditional face-to-face teaching and learning, the "idea space" in discussion online was likely to be more accessible, especially to those who found speaking in class difficult.

Example:

"You seem capable of being more surprised online by contributions, you've got more time on your reading and more time to look at them, and think that's interesting, how does that relate back. Whereas in class when you're handling a discussion and you're encouraging the quiet ones to talk and trying to shut up the ones that are talking too much, overpowering all the other ones, and managing the process." Reference code 883/109.21/dup01

Observation:

This space was often occupied by the teacher or more outgoing speaker in class, whereas online, access and timing would determine occupiers of the idea space rather than personality or status.

20. Online outcomes*Finding:*

Specific outcomes for learners resulted from online learning as distinct from face-to-face learning.

Example:

"...but I think in terms of what actually happens in the online seminars, the outcomes were markedly different. The degree of interaction, of thinking and the degrees of honesty were much greater in the online discussions than in the previous years when we'd had the discussions face-to-face" Reference code 480/106.11/out01

Observation:

Different perceived outcomes identified in the interpreted information included:

- learner self-reliance,
- learner self-direction,
- visibility and trackability of achievement,
- opportunities for additional support,
- greater links with workplaces and other sources of expertise,
- dialogic skills,
- choice of timing and activity for learner,
- greater interaction and participation in learning,
- research skills development.

21. Online reality*Finding:*

Whatever the motives for using online environments, teachers found considerable differences (both positive and negative) in the experience of learning and teaching online.

Examples:

"I'd say that the anonymity is a feeling rather than a reality, it's the distance that's caused by interacting between the different types of people rather than the actual learning" Reference code 337/104.8/dis02

"...it's making sure that the material is in such a way that it is not really like a handout, reading out, you know from a handout, you need to get them to work to something and then ask questions" Reference code 119/101.15/int01

"...they said "well it's the fact that nobody could see me if I make a fool of myself. Basically that I'm an invisible presence" it just seemed to take away embarrassment or shame" Reference code 485/106.12/dif01

" I suppose it's also about sharing which is another advantage about online stuff, they wouldn't do that in class." Reference code 733/109.12/dif01

"...there is probably something more psychologically real and reassuring and holding about face-to-face interaction" Reference code 868/106.9/dif01

Observation:

Information differences related to currency and breadth of reach in online environments. Learners were seen to experience differences of status online, different forms and traces of communication and interaction. Importance was attached to dialogue and learner control. Different learners' expectations related to other technology uses (mobile, Web surfing, banking, shopping, selling). In the HE context, there was the likelihood of different online provision for different modules.

22. Online plasticity*Finding:*

The plasticity or flexibility of the online environment could accommodate difference in learning approach, need and discipline

Examples:

"...a part time student with all the things in the world going on in their lives, they've got kids, sick cats, half built extensions, job threats all the time, they're trying to pursue careers and they fit it in, so what they need is anything that they can get their hands on that will save them time but optimise their opportunities for access to information and also for virtual information." Reference code 448/105.11/par01

"...and I think it's a much more a transparent medium now, I think you could transfer online learning to virtually anything now" Reference code 280/103.13/con02

"...part of the benefit of online learning is being able to choose when and where you interact" Reference code 884/104.17/cho01

Observation:

The plasticity or flexibility of the medium was a key concept, not simply to support any subject discipline, but also any time, place and mode allowing individuals to relate to the online environment differently. This also produced the opportunity to mould and flex an online environment around a syllabus. This was not simply about affording learner choice but enabling engagement with learning activities and purposes at varied levels depending on learners' motivation and style of approach. In the data, the online facility was mostly seen as an environment, not just a tool for learning.

23. Personalisation

Finding:

A perceived advantage of online teaching was the capability for personally communicating with students to a greater degree.

Examples:

"...building in a form of tracking, to see which student is getting which particular question right, and then you can target the type of support you want to give to the student" Reference code 93/101.6/tar02

"I think actually you could do that more so in an online seminar and pick out the people who hadn't said so much and send them an email and say "are you all right?" Or say what do you three think because you haven't said so much? Are you all right with this? Or what's going on for you?" Reference code 506/106.22/per01

Observation:

This concept was underpinned by the opportunity to see work in progress and discussion contributions from students, there was more potential to follow up contributions of all levels – from poor to excellent- with personal feedback and support. The category also included the idea of learner control through the personalising of the online environment.

24. Time space*Finding:*

The changed time dimension made possible through a VLE, allowing access and interaction over a period rather than at a pre-arranged point in time, widened the opportunities for learning.

Examples:

"...it's a reflective use of communication technology so they're constantly reflecting on the process that they're doing and that's what they're discussing" Reference code 855/104.19/ref01

"...the nice thing was the greater degree of contribution from overseas students. I think again because we said you don't have to use wonderful English, texting English is absolutely fine" Reference code 885/106.13/esl.01

"I just find that awful, they are being asked to be so flexible in terms of work and balancing life. And here we are talking about flexible organisations and saying you've got to be here on a Monday!... we just don't have to do that any longer and I find that potentially so liberating." Reference code 529/106.24/par01

Observation:

This concept focussed on the features of asynchronous communication and materials access, including opportunities to reflect on contributions to discussion, to provide referenced ideas in discussion, to critique and analyse rather than react quickly. There were also opportunities for all learners to check spelling and grammar if wished – this was considered a particular help to speakers of English as a second language. Learning needs such as dyslexia could be assisted through software. Those who had little time to connect with other learners (part-time, non-traditional students or full-time students supporting themselves through part-time work) could make connections in suitable time. Those who were geographically distant could connect without travel delays and physical exertion. Where synchronous communication was referred to in cases, there was a view that time switched with physical space, i.e. the constraint of appearing at a particular place and time in a traditional classroom was replaced either with asynchronous time and place freedom, or with synchronous freedom from physical location at a particular time.

25. Virtual status*Finding:*

Learners and teachers could attain a different status online from that in the classroom.

Examples:

"...if you're in a room full of strong personalities, the shy person won't speak so often and yet online, they're just as talkative, if not more so" Reference code 274/103.11/ext02

"...if I logged on late there was sort of like heckling which they would never have done in a f2f environment at all" Reference code 885/106.12/ext02

Observation:

This difference of status was due mainly to the lack of appearance and body language cues online. In some cases this could hamper effective communication, but if treated with care, it could deliver an equalising of status between learner/learner and learner/teacher. This could also be encouraged by avatars, online names etc. Strong contributors in face-to-face teaching continue to contribute strongly online, but there seems good evidence from this data of quieter or less outgoing students who contribute little in class proving much more voluble online.

Summary

To summarise, Figure 4.12 below shows the number of transcripts with references to the 25 final categories. In the following section, the categories are presented in the three groups shown above: Learner's role (LR), Teacher's role (TR) and Online Experience (OE). These labels are shown in the figure against each category for ease of reference.

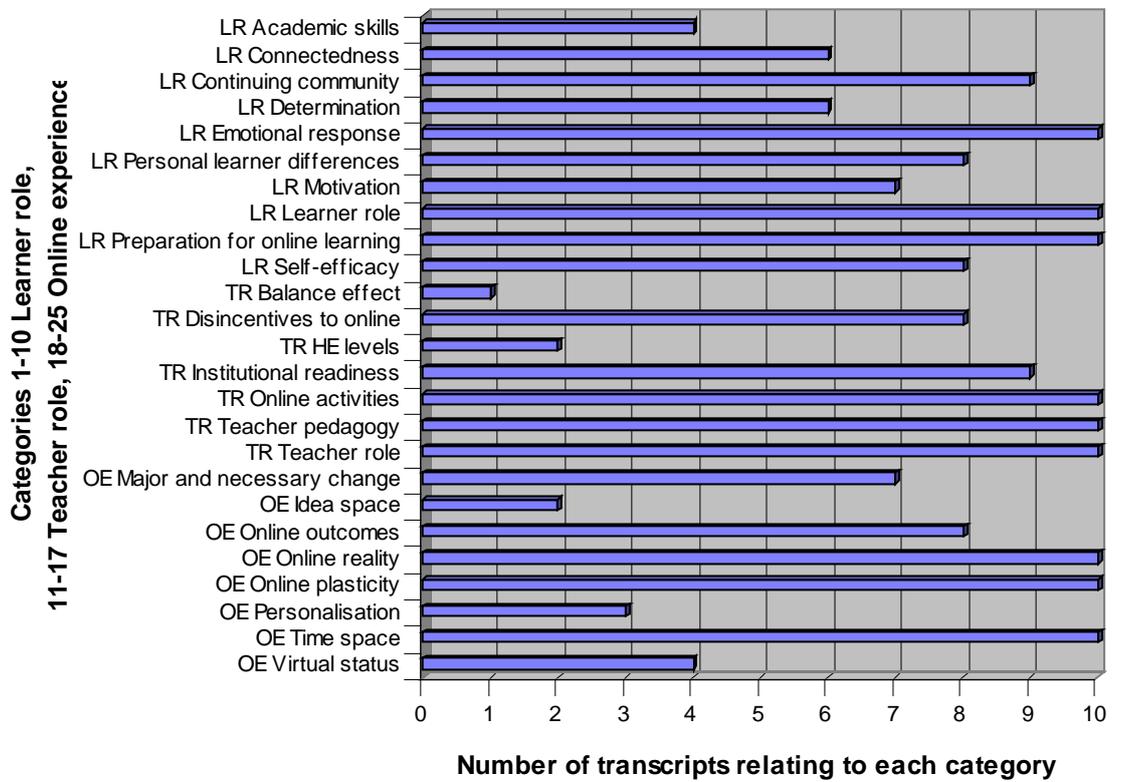


Figure 4.12 Number of transcripts showing references to the 25 categories

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This chapter has displayed the findings from the primary data. Twenty-five data categories emerged as ideas, concepts and constructs that represented the way this cohort of leading edge practitioners saw the issues around readiness for online learning during this transitional period in Higher Education. These findings from primary research sometimes mirror some of the secondary findings from the literature review, but in other cases suggest new areas to explore. This will be the purpose of the next chapter, which will relate theoretical categories found through the grounded analysis to previous literature findings and further ideas discovered in the literature.

Chapter 5 Discussion

"..it is the marriage of the technology's raw potential with exciting ideas for learning that generates such keen interest among educational innovators." (Wilson and Lowry 2000)

Introduction

The analysis produced a wide range of idea codes, which could be distinguished from each other by reference to the data. It became clear from early interviews that by interviewing teachers, the data were strongly affected by each teacher's pedagogical beliefs and assumptions. These standpoints affected the way teachers thought about students as learners, the way they thought about online environments for learning and the way they structured and used those environments.

The research, by focussing on teachers' perspectives of students' readiness for online learning, produced a range of connected theoretical findings, which are worth reviewing as they shed light on the perspectives of engaged practitioners in a process of transition with online technologies in Higher Education. It is important to look, through these teachers' eyes, not only at how students might vary in their learning approaches, but also, to what extent learning could be enabled by an "online" environment. Is there really any difference between learning with traditional tools such as books, articles, experiments, demonstrations etc with the mediation of lectures, seminars and tutorials on the one hand and learning with "online" tools as replacement or addition to the traditional format on the other?

The intention was to propose ideas on the basis of "enthusiast" and "experienced" teachers' perspectives on how teachers could manage the transition and integration of online technologies within HE, and how less successful learners could be supported and developed. This continues to pose the question: would less successful learners "online" be the same people who were less successful in a face-to-face format for learning? The positive case has been found by Vance Wilson to hold in his study of personality characteristics and computer-mediated communication, where high aptitude and high achievement students did well in both face-to-face and online environments (Vance Wilson 2000). However, results from this element of online environments (computer-mediated communication (CMC)) may not prove the same for other online activities. This

line of enquiry leads to positivist studies to test control groups in different formats, and, as yet, relatively few studies in this field have found particularly significant differences (Warner, Christie and Choy 1998; Harlen and Doubler 2003) although an exception would be the Beyth-Marom et al. study undertaken in Israel (2003). These studies have largely been focussed on elective modules or courses where students could choose a fully online mode.

In this discussion chapter, I will review the research questions posed after the literature review and endeavour to relate and critically analyse the findings of the primary research and further findings from the literature under these headings. It is worth noting that the grounded analysis method encourages further exploration of the literature after the analysis of findings from primary research, so as not to skew the findings towards or away from published conclusions. In this spirit, this chapter extends the discussion of literature in Chapter 2 to focus specifically on the literature relevant to particular research findings and relates these further findings to the outcomes of grounded analysis in the pursuit of new theoretical concepts. It becomes evident from this chapter, that the original directions of the research and expected findings have developed and evolved during the analysis, an emergent outcome consistent with the inductive and interpretivist nature of this qualitative study. It may have been desirable to find what I was looking for, but to find the unexpected, which caused a revision of purpose, was perhaps the most exciting outcome of this research.

The research questions posed after the initial literature review were:

1. How do university teachers perceive the variation of students' approaches to online learning?
2. Why are some university teachers particularly enthusiastic about the opportunities offered by integrated learning environments?
3. What pedagogical beliefs underpin these teachers' practice?
4. To what extent do users of learning management systems identify and exploit properties or affordances of online environments?
5. How useful or valid is the concept of students' "readiness" for online learning? Can it provide a basis for discussion about supporting students' approaches to online learning?

1. How do university teachers perceive the variation of students' approaches to online learning?

Perceptions of students' variation were not related by most of this group of teachers to gender or age differences, nor was there much support for personality differences affecting approach to online learning, with the exception of the characteristics of curiosity and determination, however these were largely seen as a subset of differences in motivation and attitude. This will be illustrated through a further discussion of the three concepts which did appear meaningful to the teachers interviewed in terms of varying students' approaches: the active nature of online contributions, identity changes online and the evolving role of the learner. I will explore these further, referencing these findings to research categories (see detail in Findings Chapter and summary in Appendix 6) and relating them to findings in the literature on this question.

The active nature of online contributions (*Category 8 Learner's role*)

In face-to-face teaching, teachers contribute by definition to the learning process in an active way, at least by preparing materials and activities relating to learning outcomes. However, it seems possible to allow students a relatively passive role – particularly in lectures or over-sized seminars where they have little opportunity to contribute to the expression of their own ideas and problems about the topic. Of course, HE teachers who favour knowledge construction rather than information transmission will maximise the opportunities for students' contribution in a face-to-face environment. How does this translate to the online environment?

Interviewees pinpointed the more active role required of students online in LMSs compared to face-to-face teaching, offering a variety of learning products and activities. The distinction was made between colleagues who used LMSs as a depository for notes and administrative information and those who used the medium to encourage debate and discussion, interaction through activities and contribution by students of items such as weblinks, relevant articles found, ideas from their own experience and collaborative projects online using wiki, blog or discussion board activity. Where this active involvement of students was required or encouraged, there was a notion of "leadership", pro-activity and self-direction (*Category 6 Personal Learner Differences, Category 8 Learner's role, Category 10 Self Efficacy*) associated with the student's role. The teachers interviewed often

associated this active role with feelings of vulnerability (*Category 5 Emotional Response*), having to express ideas as text with no non-verbal clues from the unseen audience.

"..it had a resistance to the unknown and to looking.... putting yourself in a position of vulnerability if you like" Reference code 286/103.9/fea01

Identity changes (*Category 8 Learner's role, Category 17 Teacher's role, Category 21 Online Reality*)

There was evidence from the interviews that the identity of both teachers and learners could alter online and affect the role an individual or a group takes in the learning process.

"..if I logged on late there was sort of like heckling which they would never have done in a face-to-face environment at all" Reference code 483/106.12/int01

In relation to the teacher's role, the development of the Community of Inquiry model by Garrison, Anderson and Archer (2003) can help us to disassociate the role of "teacher" from the potentially all-powerful individual at the head of a physical classroom, to the overlapping types of presence online described in the model. The model proposes that the online teacher has at least a three-fold presence: social, cognitive and teaching, although they see the latter as a structure/process role rather than an instructional or didactic one. While Palloff and Pratt in *Lessons from the Cyberspace Classroom* (Palloff and Pratt 2001) merely touch on the need for faculty to give up a degree of control (p153) when teaching online, Garrison, Anderson and Archer have produced a framework for that new role which relates closely to the categories found in this study (*Category 15. Online Activities, Category 16. Teacher Pedagogy and Category 17. Teacher's role*).

Interviewees discussed status changes between learners and between teacher and learner as a distinctive feature of online communication (*Category 8 Learner's role, Category 17 Teacher's role, Category 25 Virtual Status*). Certain groups of learners appeared to be more advantaged online, notably those who had some kind of problem with communicating in class (non-native speakers of English, quieter students), an idea which is supported in the literature (for example, Chickering and Ehrmann 1996; Chatterjea 2000; Palloff and Pratt 2001). Pratt (1996) talks about an "electronic personality" in which introverts are inhibited in face-to-face discussion by social cues and body language, which is removed as a barrier in online discussion. Clearly this distinction related to the fact that the teachers interviewed had developed computer-mediated communication as part of the

module or course they delivered, which was where identity shifts were experienced. This was particularly the case in active discussion boards and synchronous virtual seminars, where the teacher had less authority and often became accepted as one of the learning group, albeit with more experience and resources to contribute. It was suggested that the increased contributions online from quieter students related to the absence of identity-defining cues.

Further debates in the literature about the development of social interdependence through CMC explore some of the impact of perceptions of others' learning style online which may cause conflict (Curtis and Lawson 2001), even though personal learning style may be less important in this environment (Gunawardena and Boverie 1993). This effect of perceptions of others' learning styles relates to the construction of identities online, as more subtle or simply different inferences are drawn through text, than may be the case through physical body language face-to-face. It seems that human nature abhors a vacuum online as teachers in this study experienced ways in which identity could be constructed through text discussion, which appeared to be based on perceived effort, curiosity, maturity and others' learning preferences and behaviours (e.g. attending regularly, sharing examples and resources, managing group process) (*Category 6 Personal Learner Differences*).

The evolving role of the learner (*Category 3 Continuing Community, Category 8 Learner's role, Category 10 Self-Efficacy*)

If for the moment we assume a relevant and supportive induction, where does that leave a learner in an online environment? Authors such as Geurson (2000), Revill et al (2005), Hiemstra and Burns (1997), Nixon and Salmon (1996) are convinced of the need for self-directed learning approaches for effective online learning. This is supported by findings from this study, but respondents also advocate contextual learning and social and cognitive constructivist designs, which can enable such self-direction (*Category 10 Self-Efficacy*). The potential richness of social dialogue online, which could support self-directed research and trigger ideas, was clear from the notion of connectedness arising from the interviews (*Category 2 Connectedness*) – not just connectedness in a technical sense but collaboration and dialogue with each other and with other sources for learning. The technologies offered affordances supporting self-direction, but also learning community development (*Category 3 Continuing Community*), where learning was done in cohorts, rather than “roll on, roll off” programmes.

While generalised learning styles and strategies did not seem of great import (*Category 6 Personal Learner Differences*), provided the individual's variation of strategy and preference was taken into account, the determination (*Category 4 Determination*) and motivation of learners (*Category 7 Motivation*) and the perceptions they had of their self-efficacy at learning online (*Category 10 Self-Efficacy*) did seem to figure in the way learners prepared for online work and blended courses. To some extent this motivation was seen to derive from prior learning experiences (*Category 9 Preparation for Online Learning*), but also from the social group, as commitment to that group could drive initially reluctant online learners to contribute effectively (*Category 3 Continuing Community*). This latter point diverges from Atherton's view (2002b) that social motivation is more likely to lead to surface learning, being more about impression management than deep motivation. The teachers in this research study and earlier research based on interviews with students (Greener 2006) propose a stronger social mediation of learning motivation within cohorts and smaller groups of students relating to each other online, compared with groups which meet face-to-face.

Is there a difference between the expectations of self-directed learning and active learning, both of which are advocated in the literature for learning online and both of which appear in the findings of this research as vital for online learning? Brockett and Hiemstra (1994) write of the myths and misunderstandings of self-directed learning, including that it is an "all or nothing" concept, that it applies to all learning and somehow makes this different from other learning and is limited to reading and writing activities. Candy's overview of self-directed learning (1991) is also helpful here, distinguishing between ideas of personal autonomy as both a general characteristic and an outcome of self-directed learning, and auto-didaxy as a process. Where personal autonomy is a general characteristic, it can of course lead to the opposite of self-direction in learning as part of a personal autonomous choice. Auto-didacts can choose their approaches to learning, while still remaining in personal control. Some of these choices will involve total personal direction of learning, others will take the opposite extreme and involve (for reasons of time, level of understanding and convenience) a passive and surface learning approach. This process of contingent decisions on how to learn is part of the strategic learning approach (a motivation to achieve high grades with or without understanding) discerned by Entwistle (2001).

Entwistle develops the view that deep active approaches (examining conclusions and giving evidence of how they are justified or not) and surface active learning approaches (describing key points but not so clear on how they fit together) are most closely

associated with deep learning and understanding. Meanwhile Harasim et al (1995) explored the benefits of active learning over passive learning when using online environments and concluded that Web-based education encouraged active learning and did more than classroom learning to develop learners' research, writing, computing, and collaboration skills. The research findings here suggest that active learning is important to construct knowledge and for sense-making, provided the context for learning is clear (*Category 15 Online Activities*). Whether self-directed or active, these learning approaches will be associated with more success than a passive and surface approach, which appears more suited to a didactic and content-centred style. However, an online learning design may include some elements which allow sequenced blocks of information which could suit such learners, especially when the subject matter is biased towards the factual and the opportunities for co-creation of knowledge are limited.

In answer to the first research question, this study has identified variation among students' online learning approaches which are based on the degree of pro-activity, self-direction, self-efficacy, motivation (personal and group), determination and willingness to engage in online dialogue despite or because of lacking social cues. It does not find support for variation in online learning approaches affected by other forms of personality characteristics or traits such as gender and age.

2. Why are some university teachers particularly enthusiastic about the opportunities offered by integrated learning environments?

Four key ideas result from the findings in response to this question: time flexibility, the archived or recorded nature of online activity, the nature of the online space and its flexibility for learners and the plasticity of the online environment with respect to individual learning preferences, strategies and needs.

Flexibility of time (*Category 24 Time space*)

The research finding provided the notion that time flexibility, allowed by asynchronous communication and materials accessible online at any time, widened opportunities for learning and deepened the possibility of critical reflection. Time flexibility is a well-discussed concept in the e-learning literature in relation to studying "any time any where"

with online media for example McFadzean (2001) and is mentioned by Conole and Dyke (2004b) as an affordance of online technologies. However the findings specifically relate this to the additional opportunity of reflection, suggesting that online work allowed more time to reflect, for example in asynchronous discussion boards, wikis etc, and therefore the potential to produce discussion answers which were thought through and related to experience, rather than spontaneous. This extra time to think before “talking” online was understood by interviewees, through their experience, to advantage those with difficulties, such as dyslexia, as well as learners, who were normally reluctant to take part in class discussion. Similarly, the time flexibility enabled more questions to be framed and answered than would usually be the case in a time-limited session. As a disadvantage, time flexibility was said to encourage laziness in response, allowing students to ignore questions more easily, or not to make time for them.

“the lure of online learning is that it will be there when you want to fit it in, rather than having to turn up to the classroom at nine o’clock in the morning” Reference code 188/102.6/tim01

Time flexibility was one of the key features of online learning spaces, which could offer substantial benefits over classroom teaching. Not only enabling reflection on the part of learners, this flexibility also allowed broader response to individual needs across a learning group by teachers, and facilitated the refinement of academic skills relating to referencing, writing and synthesis of ideas, as stages in the formation of academic output were visible to both learners and teachers.

Surveillance and archiving of activity (Category 21 Online reality)

A key dimension of online discussion was the existence of a record of thoughts, comments, ideas and references as an output, differing from the student’s normal dilemma between taking a full part in class discussion and taking good quality notes of class discussion. While the discussion could lack some spontaneity online, these teachers referred to longer contributions from some students, reflective and/or better researched contributions, and the use of this record for assessment or for additions to revision notes.

“online the students seem to write more and enjoy it more than they would writing in a book” Reference code 687/108.30/exc01

The textual record also made it possible for students to choose where and when they would join the debate, this choice becoming part of their personal response to the use of

online resources. In the literature, such as Broumley (2002), the recording of students' interaction is viewed more as a tool for analysis than as an aid to learning for the learner.

Online space and flexibility (Category 19 Idea space, Category 22 Online plasticity)

"the kind of notion of being within a virtual space so that its not just that you've gone to the discussion board but that actually you are occupying the same space." Reference code 482/104.28/env01

Much of the comment by teachers about how the online environment differed from a face-to-face environment emphasised the way it could be adapted more flexibly to different learning activities, different subject areas, different students and different learning styles. There was a sense in the transcripts of a different kind of learning space, which could mould itself to these differences in a way which could not be achieved in a traditional classroom. This online environment was seen as a challenging medium for both teachers and students.

"..the removal of the hierarchy, so you take away the physical structure and layout of a classroom, you take away signals from the body, you take away all the signs like that and really what you are left with is a space." Reference code 481/106.11/env01

Paulsen (1995) sees this as requiring a changing role for teachers, as they begin to give more responsibility to students for their learning direction online and see the online environment as more participatory and interactive (Gold 2001).

Potential online plasticity (Category 22 Online Plasticity)

In the experience of interviewees, LMSs could produce a pliable environment, which could become a learning place tailored to the needs of the learner. The plasticity discussed by teachers in this study accommodated varying styles and preferences for learning, such as serialist, holist and versatile learning strategies (Pask 1976b), surface, deep and strategic learning approaches (Marton 1976; Marton and Säljö 1976; Biggs 1979; Ramsden 1979), differing processes of learning and habitual patterns of studying, of which an excellent discussion can be found in Entwistle (2001). It also caters for those who wish to use it as a safety net for reassurance in the understanding gaps left by face-to-face sessions, those who wish to use further guided means of exploring or understanding material and those

who wish to use online learning sites as gateways to their self-directed forays into knowledge.

Some authors, including Palloff and Pratt (2003), identify the importance of differing learning styles and approaches to learning in HE and tackle the issue of how to accommodate such differences online. This research (*Category 22*) suggested that the plasticity of the online learning environment compensated for such variety of style, without the need for engineering learning activities online to cater for specific styles.

Gunarwardena and Bovarie's small research study (1993) had a similar finding, although they suggested that learners' satisfaction with other learners online was related to perceived learning style preferences. In one sense it is always useful to encourage students to use styles, which are not their preference, in the interest of developing mature flexibility and openness in learning. But that is not really what this analysis of the online environment seems to suggest. From this study, learners were perceived to bring their own approaches and preferences to the environment and found that the choice available allowed them to follow appropriate preferences when needed. This elastic potential offered considerable advantages to learning, which were harder to achieve in the classroom, where specific activities were often required to be undertaken in a particular sequence, for example lecture followed by seminar activities, which will favour different learning preferences. Online, the time flexibility and potential for learners to control their learning can support multiple styles and strategies, provided their teacher has designed the environment to allow this, and of course that the relevant technologies are available to the teacher. So, rather than the environment dictating design, within the limits of available technologies, the teacher's approach to design may dictate the degree to which the plastic potential of the online environment is available to learners.

While the chosen group of cases may favour optimistic views of what is possible with online environments, which justifies their own expenditure of effort in this direction, it was found that considerable frustration with environments was voiced by the study participants. There were examples of this in relation to systems such as Blackboard® and WebCT® .

"I think there's a lot more potential there yet to be explored but again we've got this problem with compatibility of systems and that sort of thing" Reference code: 681 /108.27/oll01

However, the belief in potential online environments for leveraging learning was strong in the data:

"the kind of systems I've been working on are entirely to do with allowing learners the ability to choose different groups according to their needs. And there I think technology, when done right, can really support individual learners discovering their individual routes to learning." Reference code: 399/104.30/var01

and this is supported for example by Chickering and Ehrmann (1996) who promote the view that what teachers can envisage, the technology can be found to achieve.

The second question has been answered directly by the research. The principal attraction for teachers enthusiastic about online learning was the flexibility of the environment compared to traditional classroom face-to-face formats of teaching and learning. A close second to this perceived benefit was the increased opportunity to encourage reflective and critically analytical responses from students, give constructive and considered feedback and capture constructed ideas for later use (learning and assessment), enabled by the text recording nature of CMC.

3. What pedagogical beliefs underpin these teachers' practice?

This was an interesting question which was both discussed explicitly in each case, and was also susceptible to investigation through the grounded analysis by the way in which teachers' talked about students and learning.

Teachers' practical beliefs about good teaching (*Category 16 Teacher pedagogy*)

The findings suggest that "good teaching" may be similar online as in the classroom and it is useful here to explore established ideas of "good teaching". Chickering and Gamson offered principles of good teaching (1987) which included:

1. encouraging contact between student and faculty - in and out of classes
2. developing reciprocity and cooperation among students
3. encouraging active learning
- 4 giving prompt feedback
5. emphasizing time on task
6. communicating high expectations

7. respecting diverse talents and ways of learning

Chickering then developed these ideas with Ehrmann to apply to the use of technology in learning (Chickering and Ehrmann 1996) in which they supported the idea, found in this data (*Category 24 Time space*) and mentioned above, that more introverted students and those with English as a second language could find themselves better enabled with technology used in teaching, also that the online environment was able to distinguish between different learners' needs by personalizing responses and approaches for different learners. This perspective seems to sit securely in the constructivist pedagogic camp, clearly advocating proactivity for learners and using both cognitive and social constructivist approaches. All seven principles are supported in the primary data from this study, the implication being that good online and classroom learning and teaching have much in common. However it could also be suggested that online environments for learning can specifically trigger and encourage this approach. While content-centred and teaching-centred beliefs, as discussed in the Findings chapter, have little to gain from the use of online environments, learner-centred teaching as detailed in Chickering and Gamson's perspective and similarly developed by Marzano (2000) and Mehanna (2004) may be particularly effective in online environments.

Contact between student and faculty could become less cumbersome online (*Category 23 Personalisation*); in classroom teaching this contact can be easy in small groups, but larger groups make misunderstandings and lack of personalized communication more likely. Online, teachers talked about individual students being directly accessible – in and out of class time – and a perspective gained of individual students' grasp of topics through discussion board postings or responses to quizzes online. Moreover, this contact was to a certain extent at the convenience of both student and faculty.

Interactive and active learning online (*Category 8 Learner's role*)

Reciprocity and co-operation was easily enabled online through collaborative activities supported by wikis, discussion boards, file exchange etc, whereas in the classroom, co-operation could be harder to enlist as students vie with each other for their teacher's attention (*Category 3 Continuing community*). This is not to say that it is impossible to achieve in the classroom. However, these findings provide perceived examples of student-student interaction simply enabled by online communication, for example in discussion boards, where teachers have found students answering questions intended for response by teachers (Palloff and Pratt's "process managers" (2001 pp116-7). This may

stimulate further group exchange and involve teachers' intervention where necessary. It would be wise, however, to keep in mind that there are many practical difficulties in enabling collaborative use of discussion boards and other social software; for example while the activity of "lurking" may yet result in good learning, a low critical mass of engaged contributors to a discussion board is seen in this research to be a disincentive to further online participation.

"I reckon on average I get about 50% lurk in the population in courses that are run online." Reference code: 190/102.6/soc01

Active learning was most likely to be encouraged online, according to most of the teachers interviewed, (*Category 8 Learner's role, Category 15 Online activities, Category 16 Teacher pedagogy*) where students were clearly guided to weblinks for relevant sites and online resources, as well as activities and quizzes or surveys, which in turn developed learners' confidence (*Category 10 Self-efficacy*) in participating actively in debate. In comparison with a classroom experience, only the best teachers are able to fight against a passive absorption of information by a large student group in a lecture format. However, if they were the main course/module area designer, as was the case for all those interviewed, the amount of time teachers needed to develop and maintain currency of weblinks, activities, quizzes etc. meant a high level of commitment on behalf of the teacher to provide this kind of active learning experience, as well as a belief in the value gained by the students from such activities.

Learner-centredness (*Category 16 Teacher pedagogy*)

This pedagogic belief seemed most commonly associated with the teachers in the study, who personally favoured either constructivist or humanist theories of learning. It was clear from the interviews that teachers did not have to be expert technologists to believe in, and try to empower, considerable interaction with students online. One of the teachers in the group who was more content-centred, however, favoured a largely text-based course area with uploaded documents, and put the onus squarely on students to find their way to relevant references for wider reading. In this case, no CMC was used, and a more associative view of learning (for example illustrated by giving assessment marks in return for attendance online) was demonstrated at interview. It is quite possible that if a much larger teacher sample had been surveyed, this teaching belief would have been found to be more widespread and may generally be associated with a lack of enthusiasm for online learning (though this was not the case with this particular teacher), since the benefits of

online learning are unlikely to be demonstrated by this approach to environment design. Such a conjecture could only be validated by further, more quantitative research.

The learner-centred approach is well documented in Palloff and Pratt's book "The Virtual Student: A profile and guide to working with online learners (2003), which has rapidly become a widely used text in the field. These authors also focus on the Chickering and Gamson principles as a basis for building effective online teaching, showing (pp130-133) how to interpret these ideas in a practical way for online teachers. It is their view that HE teachers, who do not feel online learning is appropriate for them, should be allowed to opt out of this approach, or encouraged to use blended versions where face-to-face teaching is the primary mode, but online environments are used in support. This does not suggest that such teachers are less learner-centred; simply that they are less likely to be enthusiastic about developing new learner-centred approaches online. Similarly, the findings of this study (*Category 12 Disincentives to online learning, Category 16 Teacher pedagogy*) suggest that enthusiastic teachers who were comfortable with, and open to, experimenting and developing high-quality learner-centred online teaching, were very aware that "learner-centredness" was not a wholly owned preserve of online learning and teaching. Additionally, in both the face-to-face and online domains, there was a perception amongst interviewees, that more content-centred or teaching-centred approaches exist and must be respected.

"Behaviourist" reinforcement versus "constructivist" feedback (*Category 3 Continuing community, Category 2 Connectedness, Category 17 Teacher's role*)

Online environments can enable prompt feedback both automatically through prepared surveys and quizzes, where automated instant feedback is typed in by the teacher, and directly and personally to the student via discussion board, blog etc. Such feedback will suffer from lack of social and non-textual cues, which is a potential disadvantage for such feedback. However, it becomes possible to produce feedback on a much wider front online than in large classroom groups, where perhaps only the most voluble can be attended to. Personal feedback is easily enabled both online and face-to-face for written assignments, but again, online environments provide an opportunity to share feedback with the whole group in a way which can be captured and published for later retrieval, rather than given once and then lost if not fully recorded in lecture notes. Behaviourist approaches, which seemed from the interviews to be "theories-in-action" for some

teachers, i.e. what they did in practice, rather than espoused theories, would support the use of regular personal feedback and reinforcement. However, the kind of personalised feedback possible in discussion boards could also produce more stimulus to constructivist and action learning behaviours for students. The outcome would again depend on effective “moderation” and facilitation of asynchronous or synchronous discussion.

Diversity of students’ needs and approaches (Category 6 Personal learner differences)

Communicating high expectations and respecting diverse talents and ways of learning could be said to be equally possible in classroom and online. However, both these research findings and published literature (for example, Chatterjea 2000; Dartmouth.College 2003; Palloff and Pratt 2003) tend to support the view that online learning environments can advantage non-traditional students, including those with English as a second language and those who do not regularly contribute in classroom discussion. Gorard and Selwyn (1999) and Macdonald and Stratta (2001) argue that diversity is not well supported by technology, but base these arguments on a teaching-centred or content-centred teaching belief, rather than a learner-centred approach. The latter teaching belief was considered by interviewees to be more likely to produce Chickering’s good practice outcomes.

How was this third question answered?

As suggested by an earlier study of students (Greener 2006), these findings support the contention that teachers were key players in determining the look and feel of the online environment, despite the software emphasis on consistency of layout. The way online and face-to-face activities were blended together or pushed apart, the enthusiasm shown for online learning, the help and support given to students as they faced their fears online and the way the online materials were constructed, with more or fewer opportunities for students to get involved and engaged, often depended on the pedagogy and teaching beliefs espoused. A range of such beliefs was represented in the cases studied, with much discussion of “constructivism” and “communities of practice” but frequent use of cognitive behaviourist or humanist approaches was also found when practice was described. For example:

“it’s text that can be done in movie mode or they can interact with it. It has limited assessments built in” Reference code: 676 /108.25/oll01

"tutorials on teamworking, mindmapping on research skills online, like tutorials on photoshop. Adobe site, something like that." Reference code: 674 /108.24/oll01

"We'll take the students into the first level for each subject area. ...Each section has a brief introduction, keywords and definitions that you can't get by without in that area. Then some links to sites where they can find further information and go into it in more depth, a suggested key text they can read, some learning activities they can do in their own time and some little formative assessments they can take part in when they've worked through a unit. And we've tried to make little word games and snakes and ladders and that sort of thing." Reference code: 646 /108 12/oll01

4. To what extent do users of learning management systems identify and exploit properties of online environments?

Conole and Dyke's affordances of online learning technologies (2004b) mentioned earlier in the review of literature in Chapter 2, included:

- accessibility,
- speed of change,
- diversity,
- communication and collaboration,
- reflection,
- multimodality and non-linearity,
- risk,
- fragility and uncertainty,
- immediacy,
- monopolization and
- surveillance.

Most of these affordances were recognized by the practitioners in this study, (*Category 20 Online outcomes, Category 21 Online reality, Category 24 Time space*) and some have already featured in this chapter, for example surveillance and its relationship with tracking and archiving online activity. Three further properties were discussed in the cases, which are not necessarily separate affordances, but are certainly properties of online environments which were particularly evident to the teachers in this study: currency and breadth of content, scalability and the issue of absence of non-textual cues in communication. These will be briefly discussed along with the resulting evolution of the teacher's role and the idea of inhabiting online space, which arose from this research.

Currency and breadth of content (*Category 20 Online outcomes*)

There is clearly nothing preventing a teacher from bringing current information and ideas into the classroom; this is an expectation of teaching held by learners, teachers and universities and is evident in practice. However, the idea of currency was a distinctive feature supported by a number of the enthusiast teachers interviewed. They could identify a clear difference between the nature of traditional teaching, where the teacher refreshes and continually updates material used in courses around required learning outcomes and their deepening knowledge of their field, and the explosion of accessible information and ideas available through the Internet. This Web-enabled searching (*Category 15 Online activities*) allowed both teachers and learners to engage with current events and research developments in a more immediate way. Instead of a learning format in which teachers define the full extent of learning material for many students (though not the more self-directed ones) by specifying text books, notes and articles for reading and discussion; the Web-connected LMS offered guided search facilities to all involved in learning and the opportunity to run Webquest activities within constrained learning designs. Students could do their own material researches simply and quickly, and through the Web could bring a much wider canvas of information and comment to learning discussions – online and face-to-face.

Breadth of material was also highlighted as a distinctive feature of Web-enabled HE, particularly where universities make available sources of information and research outcomes in a spirit of openness based on the original JANET concept (for example MIT open courseware, repositories of learning objects such as Jorum, JISC projects and reports widely disseminated through the Higher Education Academy). However currency and breadth are not necessarily always helpful for learning, as the sheer volume and constantly changing nature of the material on the Web may confuse rather than clarify ideas for learners (*Category 9 Preparation for online learning*). Also, dialogue (a source for developing critical thinking and reflective thinking (Clegg, Hudson and Mitchell 2005)) is facilitated by common and shared course content. Thus, the greater the variation of course content for individual students, the lower the potential opportunity for the development of critical and/or reflective dialogue. This relates to findings on the preparation of students for online learning detailed later in this chapter.

Scalability (*Category 18 Major and necessary change*)

It is clear that the Web, and access to it, provides the advantage of scalability of materials, promising economies of scale in the learning process by delivering the same learning materials to a bigger group of students. Similar economies could in theory be gained from the potential re-usability of learning objects or artefacts, or even more likely from the sharing of re-usable learning designs. Here is the inevitable focus of HE policy-makers as funding could be seen to follow wider provision of learning via online media. While there was reference to this idea in the interviews, most respondents saw this as a naïve institutional view of learning, which did not work in practice. While scalability of materials was seen to work in practice for information delivery, this did not fit with the respondents' views of HE level learning. Similarly for re-usability, although an established concept, these teachers saw the need to continually update and upgrade both the content and look of learning products such as quizzes, video lectures, animations etc as the contexts and scope of learning changed and students changed in their view of what looked good online.

Instead of being able to base wide provision of learning on relatively small amounts of development time and technological means of delivery to vast audiences, the interviewees generally saw two difficulties. The first related to the amount of resource available for development of appropriate materials using the new medium in universities. The second related to the nature of HE learning, which involved a personal connection between learner and teacher, which could not be stretched too far. Instead of producing a simple scalable "unit" which was self-contained and could be accessed anywhere anytime by many learners, teachers believed in the need for connection and dialogue between learner and teacher, which could perhaps be increased through online media, but not infinitely, as teachers had to have time to make the connections and develop students' learning. A "one size fits all" approach was not seen to work.

This view is consistent with the literature on the prevailing role of constructivist pedagogies in online learning (e.g. Jonassen, Mayes and McAleese 1993). If "electronic page turning" will not do, being a poor and unnecessary substitute for paper-based reading, then the idea that learning can be simply scaled up to volume markets is equally invalid, following a reductionist and behaviourist view of sequencing standard steps in learning which can be followed by anyone. In the author's view, the introduction of adaptive hyper-media to shape the choice and offer to learners may be a helpful way forward here, as it moves away from a standardised approach to all learners, yet carries with it the possibility of scalability.

Most teachers in this study were convinced of the value of personally communicated support for learners with help tailored to their needs (*Category 23 Personalisation*). They found that Learning Management Systems offered them unprecedented access to individual learners, improving on classroom personalisation due to the opportunity to track everyone's progress, rather than the more visible and talkative in a large class. However, we need to keep a perspective on the findings here. These HE teachers were working at an academic level in which Bloom's analysis, synthesis and evaluation (Atherton 2001) were best facilitated by constructivist approaches involving active learners interacting and using dialogue to advance their understanding. At a simpler level, dialogue cannot function without shared vocabulary and syntax; introductions to subject disciplines and new fields for learners may well be usefully approached online through simple animations, sequenced programmed instruction and standardized information. Here we can have scalability and the resulting economies of that scale.

Absence of non-textual communication cues (*Category 5 Emotional response, Category 2 Connectedness, Category 21 Online reality*)

The teachers discussed emotion in their experience of online environments and drew attention to the increased anxiety which can be caused when textual exchange is unaccompanied by social and contextual cues. This is again a widely discussed feature of computer-mediated communication (Nixon and Salmon 1996; Benfield 2000), where tact and considerable proof-reading is required to ensure words online do not give an unintended impression. However, while Benfield in particular sees this "silence" of the student as a difficult challenge, this absence of cues was related in the study to positive involvement, as was lurking activity (presence without posting online), just as legitimate peripheral participation (Lave and Wenger 1991) was a positive part of learning in communities of practice.

"...they said "well it's the fact that nobody could see me if I make a fool of myself. Basically that I'm an invisible presence" it just seemed to take away embarrassment or shame" Reference code 485/106.12/dif01

The evolving teacher's role (*Category 17 Teacher's role*)

"Adult educators create protected learning environments in which the conditions of social democracy necessary for transformative learning are fostered. This involves blocking out power relationships engendered in the structure of communication, including those traditionally existing between teachers and learners." (Mezirow 2000)

Teachers face role conflicts and shifts as making provision for online study becomes, for some, an unwelcome addition to their duties. Unless greater teamwork can be undertaken in HE institutions, teachers face the need for constant new software learning and application in preparing online study environments. Furthermore, if assessment of online work is not seriously developed, potentially new and exciting outcomes of online learning (Harasim 1989) will go unassessed (*Category 16 Teacher pedagogy*), and perhaps for strategic learners therefore underachieved. Unless timetables are revisited, teachers also have to shoulder the burden of increased online teaching, or will be forced to ignore the opportunities afforded by online learning environments as various studies suggest the increased time involved in being an “e-tutor” (for example, Benfield 2000; for example, Barker 2002). At the same time, their expertise and academic judgement faces threat from Web access to other experts, sources and institutions, while learners may increasingly see teachers as other more “advanced” learners rather than sources of authority.

For those teachers who see the potential pedagogic benefits of the online environment and are prepared to move with the technology, there could be considerable improvements in job satisfaction as research, learning and teaching can become more connected activities, with teachers working alongside students who can be encouraged to contribute more at every level, remaining connected and contributing as alumni in continuing communities of learning.

Changing the balance of power online (*Category 25 Virtual status*)

The views of Weimer (2002 p14) and Palloff and Pratt (2003 p126) are that the teacher's role must change to produce learner-centred responses in online environments. They advocate a teacher who facilitates and one who is prepared, once the environment has been designed to encourage choice and learners' control of learning, to be simply a more knowledgeable learner alongside other learners where that is appropriate to learners' needs. This fits with data findings identifying a changing role towards offering more control for learners in an online environment on how, when and what to learn, moving away from an industrial model of didactic inputs and controlled outputs, towards a socially and cognitively constructed meaning for each learner, making sense of theory in their view of the world. The lone lecturer may find it hard to survive in an online environment in which content can be challenged, as learners draw on sources beyond the university, including other HEIs, to support their challenges (*Category 13 HE levels and Category 17 Teacher's role*) for example, the predicted loss of control over content and opening out to other HE

sources world-wide. Instead he or she must be prepared to learn with students, while offering scaffolding to learners at an early stage and introducing new perspectives and constructive criticism to learners' solutions and comments, based on respect for that learner's experience and contribution to the learning process. We could question here whether teachers are ready for this major change and what kinds of development and support are offered to teachers using online environments to prepare them for this challenging role.

This new role demands much more from the teacher, as to interpret ideas and theories in multiple learner contexts and stages can be more challenging than setting out a simple knowledge design in "one size fits all" mode (*Category 15 Online activities*). With blended learning available, HE teachers can choose to put face-to-face supports into the learning process, where learners are not comfortable with fully online learning or specifically have paid for face-to-face teaching and demand that as a perceived value. This "balance effect" (*Category 11 Balance effect*) suggests that some of these teachers were endeavouring to become more learner-centred by being prepared to offer learning both in the classroom and online in combinations which will support most different learners' needs.

Inhabiting online space (*Category 22 Online Plasticity, Category 23 Personalisation*)

The research suggests a potential dramatic switch from an initially teacher and software-constructed online environment, based on both developers' and teachers' own views of students' needs and learning behaviours, to an environment which, potentially, can mould itself to the student's needs. Engaging with any source of information for learning can be an impersonal experience, but sources of information rarely stay that way. We habitually insert names into books, highlight or annotate useful passages, generally make them personal objects with which we are happier to engage. Students decorate lecture notes or PowerPoint handouts with doodles, references, colours and underlines which mark ownership and personalise these tools for learning. Students, and teachers, habitually sit in particular areas of classrooms, which suggests a notion of a personal view of the action and habitual behaviour which comforts. If we explore the analogy of moving into a new home, we regularly decorate the environment with furnishings and ornaments relating to personal taste or memories, we bring objects into the environment which will be useful to us – furniture and machines, and, for many, the moving in process is not complete until a house-warming party has encouraged others to enter our home. This house-warming analogy may give us some useful clues about the social and orientational, as well as dialogic and active requirements of online learning induction.

Some of the findings in this research refer to emotional reactions to online learning and alienation in some cases for students not experienced in using online resources. A response to this alienation is to make comfortable and familiar a space, which will be a gateway to learning. This supports the idea of developing familiarity with the look of an institutional learning environment through appropriate induction and hands-on practice, as well as its legitimation by the teacher through regular use of the online environment in classes where blended learning is used. However, familiarity can also be improved with students' dialogue, learner-tutor and learner-learner interactions as well as the gathering of personalised artefacts around the learning space. Online learning environments can offer opportunities for learners' engagement and personalisation, although this is certainly not yet the case with the popular learning environment, Blackboard. However, an online environment can include links to other Web products to develop a personal learning environment (PLE) (for example, see the works of Anderson 2004a; for example, see the works of Ramondt, Smith and Bradshaw 2004), which can be designed to allow more interaction and contribution from students, so that it becomes a personalised space – just as a computer desktop is soon inhabited by pictures, backgrounds, screen-savers and familiar icons. We populate these virtual spaces in order to engage and feel at home with them, to personalise them.

We can also bring into the virtual space items which will be useful to us. Within course areas, this could be glossaries, resource databases, calculators, calendars, essential weblinks, seminal articles, schedules of teaching and assignment information. In more sophisticated software packages than the average LMS current in 2007, it is possible to move much closer to personalising and adaptive media, which can realise a much greater level of tailoring of the virtual space to the user, for example using software to maintain a track of recently used items and collecting items relevant to or associated with a user's profile. These ideas, such as those of Gord McCXalla's "pragmatic Web" are discussed by Ramondt, Smith and Bradshaw (2004) as positive for learning, but still as yet unable to replace the activities of experienced moderators in online discussion for personalised support and response.

Coomey and Stephenson (2005) discuss a subset of learning called their "South East Quadrant" where the learner is fully in control of and managing the tasks required on the way to learning. They suggest this is where e-learning is at its best. This idea can accommodate concepts of self-directed learning and learners' autonomy, and ideas of social presence as discussed by Anderson (2004b) and would fit the drive to inhabit and

personalise virtual space, which can otherwise appear to be without connection to the online learner. Online environments which are purely offering “electronic page turning” are difficult to personalise and inhabit, whereas at least the use of discussion boards, course journals and blogs, and wiki format tools, for example, can encourage other teachers and learners to inhabit these learning spaces. We should also consider the technology space in which the learner and teacher access institutional online environments. Barker (page 4 of his discussion "On being an Online Tutor" 2002) mentions the “personal learning artefacts” which a learner will collect to support their own learning. When combined with teacher moderation delivered in promised timely ways to provide reassurance and legitimation as well as personal response to students’ contributions, the broader online learning environment (accessed by PC or mobile or Web page via any browser) could become a personalised, appropriate and enjoyable place for learning.

This is not to suggest that it would be appropriate to move to all online teaching in HE. There are many ways in which face-to-face interaction clearly offers effective learning opportunities. These research findings suggest that a blend of face-to-face sessions and study in an online environment can be particularly effective when the personal immediacy of face-to-face teaching is used to develop social connections, inspiration, clarify early misunderstandings and generally set up the direction of a learning group for effective working (for example see *Category 21 Online reality*). Face-to-face interaction will also be the vehicle of choice to explain and demonstrate how online study fits into the teaching programme and to introduce the skills and behaviours appropriate to online study. Once this is done, an online learning environment can be designed to interact with a face-to-face programme or, where appropriate take its place, provided access, induction and design are well thought through.

This fourth question, about the extent to which these teachers were using the affordances of the online environment, seems to be answered positively when the group of teachers is looked at as a whole. Additional properties were discussed including currency, breadth of content, scalability and absence of social communication cues online. The teachers were all sensing a shift in power – in some cases feeling this desirable, though not all – away from teachers to learners with the online environment’s expanding universe and facility to allow students to behave more powerfully in relation to their learning. However individual teachers in this study were by no means aware of all the affordances discussed. The transitional state of adoption of LMSs means that the study shows a sometimes incomplete understanding of opportunities for learning online. It is also likely that current understanding of such affordance will itself expand, and teachers will always be one or

more steps behind the potential for learning of ICTs. This should be considered in relation to the specific software systems available to individual teachers, which itself is always likely to lag behind the state of the art technology. Enthusiasts are likely always to be half in the dark, trying to hit upon fixes for things they want to do with students but for which they do not have appropriate resources, and unaware of tips and existing opportunities, due to a lack of time and support for Continuing Professional Development (CPD).

5. How useful or valid is the concept of students' "readiness" for online learning? Can it provide a basis for discussion about supporting students' approaches to online learning?

This study was focussed on the idea of student "readiness", yet, as can be seen from the earlier sections of the chapter, additional issues have arisen from the study, which have been built into the "theory landscape" produced in this research. However, it is now time to return to the central idea of readiness.

Back to readiness (*Category 9 Preparation for online learning*)

The literature review chapter found some studies of readiness for online learning but these tended to focus on students' characteristics or traits. Studies such as Warner et al (1998) and Smith et al (2003) discussed "online readiness" in terms of students' confidence with e-learning, self-direction or autonomous learning and students' "preference" for e-learning. From a practitioner's perspective this is relevant, but could only help to rule in or rule out students from this kind of learning. Barker's notion of a "spectrum of capability" for online learning (page 3 2002) helps us focus here on the need to prepare learners of every ability and preference for online learning. This research similarly suggests that instead of focussing on such learner characteristics, experienced practitioners of online teaching prefer to think in terms of helping learners to *become* ready for online learning.

On the simplest level, the categories, and idea codes from which they were constructed, supported a number of differences between traditional face-to-face and online teaching and learning. This was not surprising given the online enthusiast nature of the cases. A contrary idea was initially expressed in one of the interviews:

*"...it's not really readiness for online learning as such, it's readiness for learning."
Reference code 533/107.1/rea01*

but was not reflected in the rest of the transcripts, nor sustained through this particular transcript. There would in this scenario be no clear difference between the experience of learning in traditional HE formats involving face-to-face tutor and students' engagement plus students' research/reading/activity and that involving "online" learning formats. This was not borne out in the research findings.

A related possible outcome was the conclusion that there could be no "learning" online. This links to the notion of learning not being "mode-specific", but goes further to suggest that the online environment would not be suited to the development of learning, only to the acquisition of information – just as an encyclopaedia is a container of information, which does not necessarily promote learning in the reader.

Preparing students to study online (*Category 9 Preparation for online learning*)

Students' induction, according to this study, should take account of online learning behaviours as well as academic skills and ICT access and competence. Based on the individual learner's starting points of subject awareness, familiarity with computers, personal anxieties and prior learning experiences, induction programmes, according to these teachers, could focus more on developing self-disclosure and supporting academic skills needs such as effective reading and scanning, dealing with high levels of information, awareness of resource quality criteria, analytical techniques, questioning techniques and effective online media referencing. Learning related to online learning behaviours will include information search, website evaluation, navigation techniques, use of databases, RSS feeds, blogs, wikis, online assessment tools, netiquette and skills appropriate to asynchronous discussion including précis, writing for different purposes and audiences, writing without non-verbal cues, reflective writing and navigating threaded discussions. The timing of such induction will need to reflect the introduction of different face-to-face and online activities in the student's programme, becoming a just-in-time induction to avoid overload at the start of courses.

In this second part of what HEFCE term the students' life-cycle (Higher Education Funding Council for England 2001), it is vital to plan carefully how students enter the online environment, as this will pre-dispose learners for subsequent stages of their learning. Atherton (2002c) discusses overlapping notions of what is taught but not learnt and what

is learnt but not taught by individual learners. Clearly what is taught but not learnt results in wasted effort, but it would be wrong to focus only on the area of overlap where learning and teaching coincide, since what is learnt but not taught, i.e. emergent learning and social learning from context, especially at induction, is an important part of learners' development. If we build the picture of multiple learners in an HE cohort, we see that most of what is taught will be learnt somewhere within the student group, even though this will not apply to everyone. If online environment induction can prepare students to learn from each other, we maximise the opportunities for both learning what is taught (whether directly from the teacher or indirectly from other students who gained different notions from that teaching) and for learning what is not taught, which could be valuable insights from other learners or other learner experiences. An induction, which focuses learners purely on introducing the taught curriculum as delivered by the teacher, will thus lose out on much valuable learning.

This question was answered by the teachers interviewed, who tended to reject the idea of readiness for online learning as an all or nothing concept based on static characteristics or traits of learners, which they might or might not present. This view of readiness has more in common with the idea of students' choice around whether or not to take an online elective. In this study's context of HE courses and modules where face-to-face teaching is usually a prime delivery method and online environments provide extensive support and additional opportunities for learning, the teachers were more comfortable talking about the kinds of behaviours they expected of students online and the skills, knowledge, attitudes and motivation students needed in order to derive effective benefit from a fairly standard LMS.

Summary

This discussion chapter has explored the main findings of the research in the light of published literature and in the context of five identified research questions. Answers to these research questions have been summarised and lead to a shift of outcome for the research study.

The original focus on variation of students in their approach to learning online has been investigated and found to hinge for most of this group of teachers on motivation and attitude variations, rather than characteristics or traits. The study found that amongst the group of teachers interviewed there was some effective understanding of the affordances

of online environments for learning, but individual teachers interviewed did not always demonstrate such understanding or awareness. The reasons given for their enthusiasm for online teaching and learning were closely related to the flexibility of the medium and this study has advanced understanding of how this group of teachers in transition was handling that flexibility. The pace of change in the teacher's role was found to be leaving some of the individual pioneering and enthusiastic teachers in this group struggling to master new software and fundamentally review their understanding of learning and teaching in relation to new opportunities afforded by LMSs, at the same time coping with frustrations when the features and constraints of these new systems caused gaps in what could be offered to students. One thing they were clear about was the existence of differences between learning in general, through traditional formal means in universities, and learning online which overlapped the former but introduced some new opportunities for learning.

The most common espoused pedagogies of this group were either constructivist or humanist in nature, but practical teaching activities, taken to demonstrate their "theories-in-practice", did not always reflect this, showing more associative and behaviourist approaches in practice. This may be a transitional issue, where the teachers have not yet been able to apply their beliefs within an online context; another explanation could be that the learning management systems used constrain these teachers too much to apply their espoused theories, or it may be that in some cases teachers have difficulty in applying espoused theories in practice or do not really wish to do so, since this may feel like a diminution of their control or simply yet more intensive teaching effort.

The findings also produced some explicit proposals for the kinds of skills and knowledge students would benefit from in order to get the best from that part of their learning which was supported online, producing a clear focus on the ways students could be "prepared" for online study. These new outcomes will be summarized and developed in the Conclusions chapter.

Chapter 6 Conclusions

Introduction

Two important constraints were placed on this research by the author; first, that it should focus on that area of learning which was stimulated and/or supported by a virtual learning environment and second, that it should relate to the experience of learning and teaching in Higher Education. The study has not looked specifically at the attributes of VLEs but rather taken them as a context for exploring online learning in HE. The online technology focus has ruled out discussions of the “computer micro-world” (Wilson 1996) of CD-ROM packages and stand-alone Web sources, which aim to provide the entire scope for achieving specific learning outcomes. Instead the debate here has centred on the use of software environments, which are likely to be used as an alternative to face-to-face teaching and learning in part of a university course (for example part or all of a single module), or, more commonly, as an addition to face-to-face teaching and learning for a whole course.

The aim was to explore the perspectives of a group of HE teachers who could speak from experience as “early adopters” of LMSs for pedagogic purposes, on the “readiness” of students for learning in an online context. These were the HE teachers who had probably experienced most success in the early engagement with online teaching and learning. These teachers could also be categorised within Morris and Rippin’s model (Morris and Rippin 2002) as “e-nthusiasts and e-xplorers”, who were interested in technologies for learning and tended to lead the way in their institutions in policy-making for online practice. This personal motivation to develop pedagogical thinking and innovate did not always mean research activity, but they were more likely than their colleagues to have read widely on the nature of learning and teaching and to be reflecting on their experience of change (Benfield 2000). As “leading edge” practitioners in the field, they offered a particular depth of engagement with applying institutional online learning environments, with all the current constraints which that implied. This research project can be viewed as a systematic attempt to “harvest” the lessons of their experience during a period of transition.

This chapter will assess the extent to which the research aim has been met and attempt to summarise the major outcomes of the research, both planned and unplanned, to identify where published literature in the field has been confirmed, clarified and countered and where potentially new contributions to this literature have been proposed.

Summary of previous chapters

The background chapter to this research proposed a rationale for exploring students' readiness for online learning in the context of speedy contemporary adoptions of Learning Management Systems in UK HEIs, which have left HE teachers divided on their value and the efforts required to make effective use of them in early 21st century teaching.

The study was begun on the basis that varied subject disciplines should be explored, in case situated learning issues (Laurillard 2002 introduction) had a particularly disruptive effect on the general concept of students' "readiness" for learning with online technologies. A further assumption was made, that students were likely to vary in their approaches to, and overall "readiness for", using the technologies, and that this variation would be visible to the teachers participating in the study.

The significance of the study was to address the question of how teachers could deal with students' varied approaches to online learning, when both teachers' and students' expectations of Higher Education were still largely built from traditional lecture/seminar practices. Primary stakeholders for the study were identified as HE students and teachers; other interested parties included HE institutions, learning technologists and other designers of learning through online technologies.

Published work in the field suggested that the concept of "readiness" was generally associated with institutions rather than students, except in the area of self-direction. Various authors had given helpful suggestions and practical tips for teachers on how to introduce students to specific elements of LMSs, in particular computer conferencing. A wide range of studies contributed to the understanding of students' approaches to learning in general, and in HE in particular, relating to motivation, learning strategies, stages of development and conceptions of learning, with some suggesting the characteristics of students who would like learning in online environments (Seale and Cann 2000; Vance Wilson 2000; Guglielmino and Guglielmino 2001; Lee 2001). A similarly wide range of studies related to the benefits of learning in groups and communities, based particularly

on constructivist theories of learning, which advocated the sharing of experience and learning through action and interaction (Curtis and Lawson 2001; McFadzean 2001; Pear and Crone-Todd 2002; Sims 2003; Su, Bonk, Magjuka, Liu and Lee 2005).

The rapidly changing perspective in the whole population (students, teachers and those in the workplace) towards computer-mediated communication (CMC) and the impact this societal trend is having on learning and teaching was also well documented and posed the idea that current teaching beliefs and behaviours were likely to be pulled towards the integration of online technologies with traditional HE teaching methods and tools by the “digital natives” of the near future. The huge impact of the teacher’s role and presence was not in dispute, whether in the classroom or online, but the literature provided little guidance on how teachers should deal with the here and now issues of transition to a more digital age and how they could respond to the full range of students’ perspectives on online learning, since these were not uniform and students could continue to show differing levels of engagement with online technologies.

Accordingly, my research questions focussed on precisely those issues: how teachers could manage transition and integration of online technologies within HE, and how they could identify variations in students’ approaches to the technologies and mediate the less successful ones. A grounded analysis method was applied to transcripts of interviews with HE teachers with experience of, and enthusiasm for, integration of online environments with their teaching practice. The “constant comparative” method was used to fragment the data and search for categories of ideas within the data in relation to the research questions.

The resulting findings confirmed a number of differences between traditional and online teaching and learning, which could affect the approach of both teacher and student.

Main conceptual outcomes from this study

The main outcome was the finding that *readiness* was not a useful concept for these “leading edge” practitioners, and that they thought instead in terms of students’ *preparation* for online learning, thus shifting emphasis from a “trait” or characteristics perspective of students to a developmental perspective. This teacher-constructed view of what skills and knowledge would help students learn in online settings suggests a shift in

theoretical understanding of approaches to online learning and offers a hypothesis about necessary students' induction and preparation for testing with wider groups of teachers.

Further conceptual outcomes included:

- the clearer identification of distinctions between “learning in education” generally and “learning in education online”.
- conceptions of the changing teacher’s role for this group of teachers trying to pioneer change and adapt to new technologies,
- the impact of teachers’ beliefs and levels of understanding of learning theories for these teachers on their expectations of students’ activity for learning and thus the design and integration of online technologies,
- perceptions of these teachers of the attitudes and motivations which might enhance students’ learning in these environments, and
- the idea that the potential plasticity of the online environment could accommodate the range of learning styles, strategies and approaches to learning of different students in different contexts, rather than require some optimal student’s profile and approach.

A schematic representation of the theoretical outcomes follows:

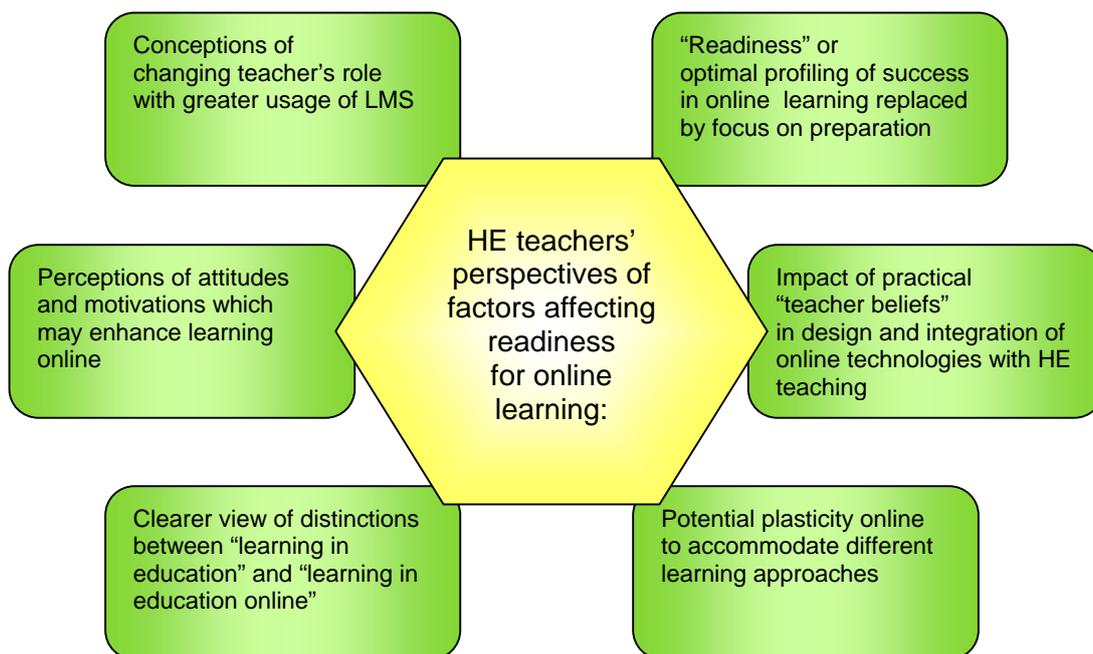


Figure 6.1 Schematic illustration of main research outcomes

To some degree, the conclusions of this research can be illustrated in the simple drawing below. The trampoline represents the plastic potential of the online environment; the teacher may position and choose the design of the trampoline, but once it is set up, if effectively used, the research suggests a potential learning space where learners and teachers alike could deal with each other as equals. There will be skills to learn and a certain determination needed to enter the new space, which may cause reluctance and avoidance behaviours. Initial efforts will make both groups vulnerable (some may even fall off and choose to leave the environment due to early unstable experiences). As new learners and teachers join the online community, that space will deform like the trampoline, with the impact of "teacher presence", "learner presence" and interaction. However, all can learn with appropriate support and those who do learn how to balance and use the environment, are likely to achieve a depth and breadth of learning and an additional set of skills, which can enhance their learning activity.

[original page in colour]

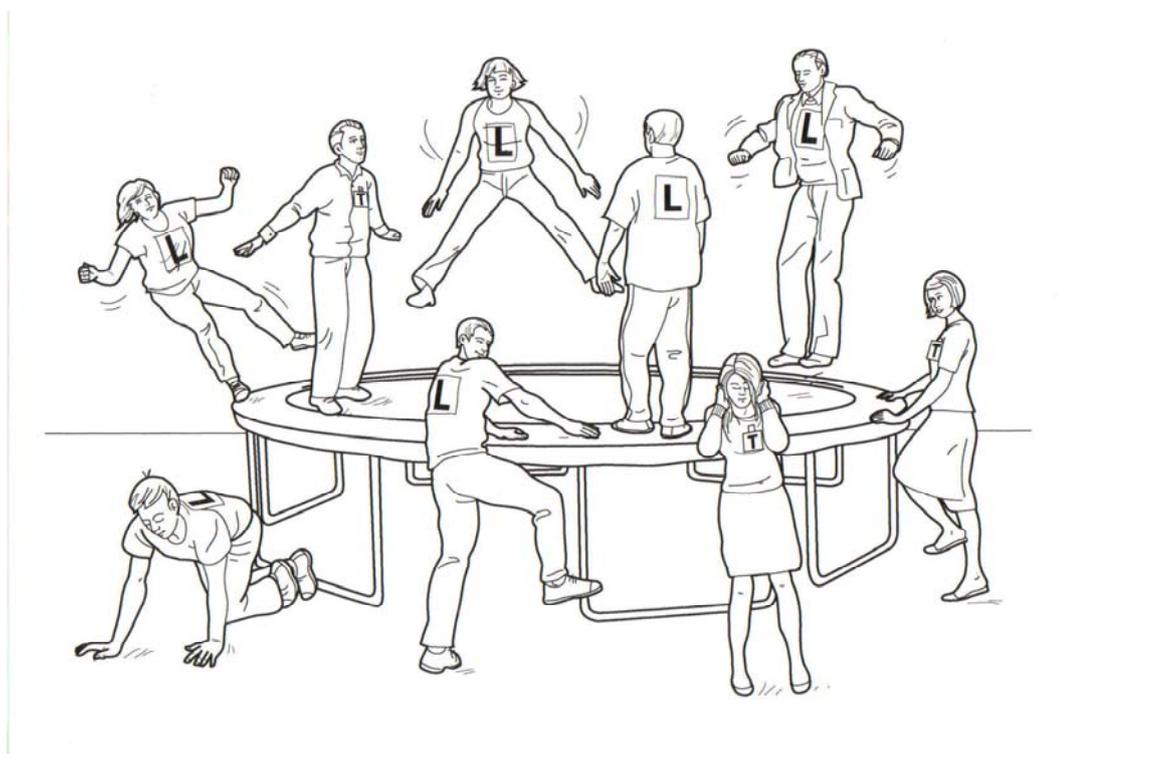


Figure 6.2 An analogy for a plastic inclusive learning environment. Line drawing by Ivan Hissey 2006

Specific conclusions and original contribution to knowledge

This study aimed to explore students' readiness for online learning, but this has exposed some of the wider issues around the pedagogic impact of LMSs on teachers and students and raised questions about teaching beliefs and values and the nature of online space created through LMSs.

The substantial changes brought about in HE by modularisation, adoption of QAA format learning outcomes and, above all, the development of mass HE and the increasing role of “value” concepts in the minds of learners paying more and more to take part in HE, have all hit HE teachers professionally, taking them into a more dynamic and turbulent environment. But the online availability of shared knowledge, expertise unconstrained by geography and time, and the rapid absorption of Web connectedness by the workplace have given a glimpse of changes more tangible than the concept of online learning would suggest.

Outcome A: Shift in focus from “readiness for online learning” to “preparation of students”

A number of specific areas of skill and knowledge have been identified as important for the induction of students who will be combining classroom and online environments for learning. The need for such induction was a strongly held view within the study data, yet such induction is taking place in a very patchy way at present in many HEIs. Students are seen by HE teachers to be familiar with many day-to-day online activities such as banking, shopping and searching for information. However, teachers then make the assumption that this familiarity will supply the capability and confidence required for high level academic skills online. To a considerable extent this assumption is fed by teachers’ own relatively low views of self-efficacy in this arena. Unfortunately such assumptions about students’ “superiority” in digital skills and a reluctance to address such issues due to personal lack of competence, is currently contributing to a mismatch of expectations between teachers and students, and may discourage many of each group to persevere in a challenging technology adoption.

The skills identified by this teacher group, and often assumed in the HE student group, would include screen reading, text-based discussion, effective Web search and analysis and may not come naturally to Internet surfers. In addition the more traditionally academic skills of systematic and applied reflection, targeted writing, critical analysis, précis and synthesis, application of ideas to real situations and evaluation of their effectiveness are all in strong demand for teacher-constructed online activities, but can be assumed (wrongly) to be in place and to be simply transferred to the online environment. Appendix 7 offers, in line with the “professional” nature of this professional doctorate study, an outline induction programme for online learning that is consistent with the findings of this research.

The research themes and comments support the idea that students' induction will need to take account of online learning behaviours as well as academic skills. Practitioners in this study advocated basing induction on an individual learner's starting points of subject awareness, familiarity with computers, personal anxieties and prior learning experiences. But induction programmes could also focus more on developing self-disclosure and supporting academic skills needs such as effective reading and scanning, dealing with high levels of information, awareness of resource quality criteria, analytical techniques, questioning techniques and effective online media referencing. Detailed responses to questions about appropriate learning activities online in this study produced the following list of desired online learning behaviours:

- 1 information search,
- 2 Website evaluation,
- 3 navigation techniques,
- 4 use of databases,
- 5 use of RSS feeds
- 6 Weblogs, blogging
- 7 Wiki-building activities
- 8 online assessment tools,
- 9 "netiquette" and
- 10 skills appropriate to asynchronous discussion including:
 - précis,
 - writing for different purposes and audiences,
 - writing without non-verbal cues,
 - reflective writing and
 - navigating threaded discussions.

(Category 15 Online Activities)

The timing of such induction will need to reflect the introduction of different face-to-face and online activities in the students' programme, becoming a just-in-time induction to avoid overload at the start of courses.

Research outcomes relating to the vital preparation of students for online study and ways in which the online environment might be made personally welcoming and engaging through the tools used for interaction and personalisation are practical outcomes.

Moreover, the detailed content suggestions arising from this study for learners' induction have gone beyond the commonly advocated ICT skills and resolving access problems. Many of the assumptions made by teachers about students' online learning capabilities are without foundation. Just as study skills must be developed and supported rather than assumed, so online study skills must be specifically identified and developed rather than assumed of early 21st century students.

Outcome B: clearer distinction between “learning in education” generally and “learning in education online”

“Learning in education” was earlier seen as the relevant context for investigation in this study, and in earlier chapters attempts were made to explore and apply a range of pragmatic beliefs and more systematic and wide-ranging learning theory to this context. Findings from this research supported the direction of that literature which distinguishes online “learning in education” from that encountered in the traditional face-to-face classroom model. Category 10 Online learning outcomes and Category 16 Teacher pedagogy offered a conception of online learning (albeit within the context of contemporary LMSs such as Blackboard®) which required more pro-activity and self-direction from the learner and which was likely to arouse more emotion than the classroom experience, in relation to higher levels of anxiety from some learners and excitement from others.

Learning online was seen to require better time management skills from learners, particularly when grappling with increased quantities of information via the Web, and having to judge the relative quality of such information. Computer-mediated communication, where used in the LMS course or module areas, was seen to offer increased potential for collaborative learning and (where CMC was asynchronous) reflective analysis. Learners' self-efficacy judgements were also seen as having a greater impact on online learning, although this impact may abate in a few years' time, when the current transition to greater usage of LMSs, for learning rather than information transmission and retrieval, becomes the norm in HE.

Despite this rather optimistic picture painted by enthusiastic teachers, they were also greatly aware as a group of the practical disadvantages of learning with online resources. Potential (for example to promote collaborative learning and reflection) was seen as

exactly that, i.e. potential, rather than something which automatically happened online. These teachers felt a personal responsibility for designing teaching which tried to maximise such potential, and for selling the benefits to students who could be reluctant, cynical of the value of what they saw as extra work to go online, or put off by initial access issues or inappropriate use of language in CMC to lurk or fail to log on when expected. Then there was laziness to discourage a few more students to become active online learners, or simply to put off online work as it was not so time-dependent; and on the part of teachers, a perception that online teaching was loaded with extra effort and time penalties at the outset, involving a great deal of Continuing Professional Development (CPD), and the sharing of materials which had previously been held in private territory. Add to this the constraints of current LMS packages used by HEIs, which rarely seemed to allow these teachers quite the opportunities for innovation they wanted, and a more realistic picture of the experience of this teacher group begins to emerge.

Outcome C: the evolving role for teachers who are enthusiasts for online learning in a time of transition

“Early adopters of new technologies can easily find themselves isolated, ignored and problem solving in an intellectual vacuum. E’s comments about teaching online are telling: ‘It’s very lonely out here’; ‘For a teacher this is a whole different thing. Sometimes it’s really difficult’; ‘It’s only just a small portion of my teaching load, yet it’s all consuming. You’re all the time thinking, “what can I do, what can I try?”” (Benfield 2000)

From the perspective of the enthusiast early adopters in this study, it is suggested that teachers may need to reconcile a directive teacher presence, where that exists, with a more equal status with learners online. While the findings of this study in themselves cannot be taken as indicative of all online teachers, yet alone all online teaching (which would include, for example, fully online teaching, which was not explored here), there is an emergent picture of some teachers experiencing a challenging shift in their understanding of teaching in HE. The traditional hold of the curriculum and the status of the teacher, in the perceptions of most of this group, were expected to diminish in favour of using online environments to focus on open-ended problem-centred learning and more targeted student-centred learning, precisely because the potential of the environment favoured this approach.

The theoretical outcomes of this study suggest that teachers may need to take account of loss of leader status associated with adoption of constructivist-led teaching and learning online. This change of traditional authority status, related to the widely discussed concept of the facilitative role, a tenet at the basis of Salmon's e-moderating model (Salmon 2000), appears to be an outcome of, and a potential input to, the online learning and teaching process, particularly where online activity replaces face-to-face teaching, for example in virtual seminars. The potential equalising effect of the medium between learner and teacher does not enhance the role of learner at the expense of the teacher, but puts both in the happy position of learner, albeit with concessions to the teacher's additional experience and knowledge.

Yet, the teacher was seen by most of this group to be a key player in determining the look and feel of the online environment. They decided how online and face-to-face activities were blended together or pushed apart. They determined the degree of enthusiasm shown for online learning and the help and support given to students, as they faced their online fears. They decided how online materials would be constructed, with more or fewer opportunities for students to get involved and engaged. All these decisions would be taken on the basis of the pedagogy and learning beliefs espoused. However we cannot see the teachers as all powerful here. They were subject to considerable constraints from their institutions and from the specific software purchased (which sometimes was expected to have a long term impact as providers tied in institutions through contract and upgrade packages, which risked isolation from competing software developments). Teachers also experienced varying levels of support for teacher ICT skills development and academic professional development, and different institutional responses to pioneering teachers who often wanted to test new software additions, with impacts on funding and compatibility in the institutions. An example of a presentation developed as part of the induction of new online teachers, based on the findings of this research, is given at Appendix 8.

Teachers face role conflicts and role shifts as making provision for online study becomes, for some, an unwelcome addition to their duties. Without greater teamwork in HE institutions, teachers face the need for constant new software learning and application in preparing online study environments. New problems are faced in the assessment of online work; some of the teachers in this study were backing away from such assessment, finding it too controversial within their institutions, yet there is considerable literature on this topic, including major work through the JISC. Unless assessment of online work is

incorporated into standard assessment regimes, potentially different outcomes of online learning will go unassessed, and sometimes (through strategic learning approaches associated with assessment) underachieved. Unless timetables are revisited, teachers also have to shoulder the burden of increased online teaching, or will be forced to ignore the opportunities afforded by online learning environments. At the same time, their expertise and academic judgement faces threat from Web access to other experts, sources and institutions, while learners increasingly see them as other more advanced learners rather than sources of authority.

For those teachers who see the potential pedagogic benefits of the online environment and are prepared to move with the technology, there could be considerable improvements in job satisfaction ahead. Research, learning and teaching could become more connected activities, with teachers working alongside students. The online environment potentially offers encouragement to students to contribute more at every level, remaining connected and contributing as alumni in continuing communities of learning, provided, of course, that institutional policies facilitate this advance.

Outcome D: impact of teachers' beliefs and understanding of learning theory on design and expectations of online learning

Analysis of the cases studied presents a coherent landscape of changing learning roles and activities online and the idea that preparation for such learning requires more attention than is currently given to it. Consequently we must return to the question of the extent to which teachers' perspectives of learning affect and control the process and outcomes of learning in HE. The research outcomes suggest a much greater teacher's role than may be expected from current practices of teaching. Little account seems to be taken, when pursuing quality processes, of personal teaching beliefs and their impact on the process and outcomes of learning. Issues of students' satisfaction, tracking of learning outcomes and other academic quality indicators have deserved importance in quality processes, but traditions of academic freedom have tended to hold back enquiries into personal pedagogies. The advent of online environments for learning in HE institutions offers a challenge, as we look more closely into the way learning opportunities are designed and controlled by teachers. The study offers evidence to support writers who assert the significance of teachers' impact on the experiences of learning for the student (Anderson, Rourke, Garrison and Archer 2001; Anagnostopoulou 2002; Atherton 2002b;

Laurillard 2002). How the teachers in this study think about learning, their views of students' motivation and approach as well as cognitive abilities, appear to affect the way they design online activities, materials and assessment and this will in turn direct the learner's experience of online activities.

However, one could propose that standardising pedagogy to any great extent would seem a good way of disincentivising innovation and constraining teachers' practice. Teachers cannot be forced to consider individual student's variation, or learner-centredness, nor can they be made to adopt online methodologies if reluctant to do so. The process may need much more debate about the value and difference of learning in online environments (see Outcome B) before such practices become more widespread. It is more likely that a consistent approach to introducing students to online study environments could help to support individual difference, rather than forcing teachers to make personalised support available after profiling students.

Outcome E: students' attitudes and motivations expected by teachers for online learning

Learners face changing expectations of what it means to follow an HE course. Lectures, seminars and private study involving tangible text are likely to be increasingly backed up with online visibility and contribution, whether online teaching and learning are substitutes for, or additions, to the classroom. The online environment created by LMSs demands a more positive and proactive role from learners as the norm shifts from seeing self-direction as one end of the learning spectrum to seeing it as the normal way for a learner to manage multimedia learning. The learner's identity is subject to change through online conditions. Confident learners, who have experienced positive online activities, may demand more equality in the learning contract and can use the connected nature of the online environment to choose institutions which provide the conditions of learning they prefer. Schools can do much to provide positive online learning experiences in parallel with individuals' increasing engagement with the Web to provide for the basics of life. The volume argument against detailed personal support and feedback is likely to lose ground as online personalisation enables teachers to monitor individual learning pathways and respond directly to identified learners' needs.

The discussion chapter offered suggestions around decreasing alienation and enhancing emotional engagement with online environments by appropriate induction, not just a set of

rules and information, but by means of interactive socialisation into the environment (the “house-warming”).

The opposing concepts of online isolation and connectedness have been examined and related to the pressing drivers of increasing disconnection from the campus environment due to students' increased employment or caring responsibilities. The perception of these teachers showed an awareness of increasing students' demands for learning opportunities tailored to their daily lives and needs, rather than the need for students to conform to a traditional academic face-to-face experience. The increased absorption of ICTs into the daily life of both teachers and students was seen to be pushing expectations of the HE offer, which required both substantial changes in teaching practice and CPD for teachers, plus an increasing need for an improving online environment for learning facilitation and support. The flexibility of the online environment seems destined to bridge some of the gaps which can open up for students between their lived experiences and their academic studies.

Outcome F: potential plasticity of online learning environments

Online reality seemed, in the view of these teachers, to provide a pliable environment, which could become a learning place tailored to the needs of learners. However, what might be seen as the ideal affordances of the online environment were beyond the reach of most of the teachers in this study, since the real constraints of currently available learning management systems present more limited opportunities for learning. It was, however, the case that these systems could be seen as providing something different from a reading list or a classroom session, but taking advantage of them, made certain distinct demands of the key players – teachers and learners.

The research suggests a potential progression from a teacher-constructed online environment, based on their own views of students' needs and learning behaviours, to an environment which, potentially through the use of more adaptive technologies and greater interaction, can be moulded to meet students' needs and preferences. This resonates with Laurillard's conversational framework model, where ongoing interaction and dialogue between teacher and learner provides for appropriate adaptive and reflective processes on the part of both (Laurillard 1993 pp 77-78). However, in this context, the environment itself becomes an additional player in the adaptive process, where technologies allow.

The concept of personalisation in the literature has tended to focus on three themes relevant to this study. First, we find learners' management of dimensions of the learning environment relating to style of study approach including self-direction, location, pace, duration, sequence of activities, even choice of activities (Coomey and Stephenson 2001; Beyth-Marom, Chajut, Roccas and Sagiv 2003). Second, there are the personalized responses available in online environments based on social constructivist educational theory which sees this dialogue (learner-tutor and learner-learner and learner-self) as the foundation of the construction of knowledge (Jonassen 1994; Pear and Crone-Todd 2002). Then there is a large range of literature on the design and value of personalised and adaptive hypermedia for online search and learning, which can deal with issues such as Web information overload or a sense of isolation by filtering what is visible to users according to usage (e.g. who else is present online, associated objects or sites) or user-specified criteria (for example, see Brusilovsky 1999).

This study supports both these ideas but has suggested the idea of personalization beyond these two perspectives to relate to the plasticity of the online medium. This is a medium with the potential to be ultimately adaptable, up to the limits of the prevailing software, to accommodate the broad range of learners' needs, styles and learning strategies. This is a medium which can be inhabited, developed into a personalised learning environment, with the learner (again subject to software capability) furnishing and occupying the learning space to make it familiar and comfortable for personal development.

Limitations of this research

Both the numbers of cases used in this research study and the broadly homogeneous attitudes of that group, positive and optimistic about e-learning in HE, could be suggested limitations. However, as discussed in Chapter 3, this choice of cases was a natural outcome of the grounded analysis approach to concept building and was clearly situated within the "pioneering" practitioner segment of UK university teachers. This has yielded a unique insight into the transitional concerns and behaviours of teacher enthusiasts for online learning at an early stage in OLE development and application in Higher Education. It should be possible to test the transferability of outcomes on other groups of teachers as more of them apply integrative designs of teaching and learning to their programmes of study. It should also be possible and desirable to conduct similar studies at future points

as the ICTs used in Higher Education make further dramatic transitions (embedding or rejection of Web 2.0 technologies in formal learning programmes, Web 3.0 (Borland 2007) and beyond etc).

However, a more extensive study at this stage could have pursued the opportunities promoted in grounded theory for examining further sources as a result of the initial findings, to explore specific subjects' views where those subjects might bring additional insight or depth to the categories produced. In particular it would have been interesting to identify students experienced in the use of LMSs to test the notions of plasticity, induction and teacher's role and status through further interview and content analysis. Limitations of the scope in this study have prevented such developments but other researchers can test the broader applicability of these ideas in other contexts.

It must also be stressed that this study looked only at a small part of the field of "online learning" by confining its choice of participants principally to those using standard LMSs for HEIs such as Blackboard® and WebCT® platforms. There is a broad and diverse range of software applicable to learning beyond the world of Blackboard® and WebCT® (now both coming from the same commercial stable). This further range was not explored in this study. Also largely excluded were wholly online learning experiences and planned e-learning packages, such as those used increasingly for technical and soft skill development in the workplace. The study focussed primarily on teachers with experience of blending the face-to-face mode of teaching with online materials and activities supported by a Learning Management System.

To what extent have the aims been met?

The study has moved from one focussing entirely on the concept of readiness for engagement in online learning activities to an emphasis on the ways in which these teachers believed learners could be helped to prepare for such activities. This has been an important progression as it has shifted the focus from profiling students against a common benchmark of "readiness" – a concept which proved unhelpful to respondents in this study. Instead, considerable detailed response has resulted around preparation of students for HE study in online environments, which should help to set a new standard in HE institutions as they move closer to an integrative model of e-learning and face-to-face delivery (Rashty 1999).

The initial question with which I approached the study – why did some students adapt very quickly to online environments and show excellent learning behaviours and outcomes, while others found many barriers to the same activity – has been reviewed extensively through this study of teachers' views and has produced unexpected outcomes. Rather than finding support for learning style variation and personality traits which could hinder or encourage learning behaviours online, the research has led to ideas about the medium itself and the ways in which the major players – learners and teachers - interact and respond to each others' influence on the environment. So the study has shifted from an "input" focus to a "process" focus, the latter aiding a clearer picture to be drawn of ways in which online opportunities for learning can be encouraged, through introduction and preparation of students for the experience and through the adoption of learner-focussed beliefs and understanding about students' variation and emotional reaction to the medium, which can inform pedagogic design. Other stakeholders' concerns have been addressed: for example ways in which learning technologists may approach students' induction and the development of the medium for personalisation and occupation by learners.

Future : practical implications

As this work was undertaken for a professional doctorate (EdD), it is important to add to the significant original contribution to knowledge a significant original contribution to my professional practice.

Some of the practical implications of the study for my teaching and research will be discussed in the reflective chapter, where suggestions will be evaluated for personal application in practice and issues of dissemination will be addressed. However, there are clear outcomes in relation to suggested induction for learners, which must be developed further. At present, learners' induction is being addressed in some institutions, but this is often either left to individual teachers and hence is subject to variations in quality, depth and timeliness, or it is replaced by the assumption dealt with earlier in the thesis that the digital students (Andone, Dron and Pemberton 2006) of the future will be so familiar with Web content and office software that they will automatically be enabled to learn from online experiences.

On the basis of this study, this is likely to be an unreasonable expectation, as there are several skills related to higher education learning in an online environment which are unlikely to be learned through texting and surfing. This area would lend itself to a self-profiling of students to help them decide how much preparation they need and to present students with relevant learning opportunities (face-to-face or online) which fitted their needs and helped them to engage with well-designed online activities for the purpose of personal, professional and subject-appropriate learning.

However there are findings from this study, which can be acted upon now. In the view of experienced practitioners in this research, students should be prepared effectively for the experience of using online learning environments. Induction should include an essential check on the basic ICT operations required in the course, which may include:

- 1 using email,
 - 2 scrolling documents and Webpages by line, paragraph, page
 - 3 using find/search commands in documents
 - 4 navigating the Web and finding specific URLs
 - 5 using search engines
 - 6 navigating the university online environment, submitting information (e.g. in online assessment or quizzes, as well as electronic submission of offline assignments),
 - 7 amending username and password data,
 - 8 forwarding and re-directing email
 - 9 understanding how certain icons or symbols (including underlines) may be used for weblinks or to reveal more information about a subject)
 - 10 backing up documents and data
 - 11 understanding how pop-ups may affect what is visible on-screen
 - 12 finding help from university technical sources and Web sources
- (List derived from Category 15 Online activities)

Additional elements in an online study induction should include an element of time management discussion, which clarifies for learners how time spent online can fit into session and personal study time, (based on Category 24 Time Space), plus specific skill development and discussion for academic study situated in the online context. This could include:

- 1 use of language in the subject studied and how this affects Web searching
- 2 academic resource searching online (how to use online literature databases, portals, how to find and use online journals)
- 3 once arrived at academic resources online, how to judge their quality and relevance to the search topic, (and how to do this for non-academic but relevant websites), how to cut down on less relevant information, how to store and retrieve Web pages and documents on personal media
- 4 screen-reading versus printing issues
- 5 how to reference online sources
- 6 ground rules on academic writing online including a discussion of appropriate spelling and grammar rules such as texting language, use of emoticons, use of upper case, formatting, need for checking before submission, awareness of impact from lack of non-verbal cues.
- 7 academic writing online in discussion boards for asynchronous debate (ground rules on content and length, how to attach documents, how to start new threads and respond to others, choosing appropriate threads to keep the board tidy, keeping messages simple and using multiple messages for separate ideas or contributions etc)
- 8 academic writing online in Weblogs, wikis or personal journals where these activities are enabled alongside or within the learning management system (course-relevant ground rules on what is and is not acceptable in personal comments, pictures, references to others, as well as frequency of contribution, making and responding to comments, maintaining shape and structure and the principles of reflective writing, how to organize and systematize reflection and distinctions between reflective and critical writing)
- 9 group awareness online in order to use groups to set social rules, frequency of contribution and to use the group to solve problems, rather than try to do this individually, perhaps assigning roles (such as de Bono's Six Hat Thinking (de Bono 1999), or Belbin roles (Belbin 1981), or pro/con/summary contributions).
- 10 Analysis online ensuring that students understand that description of experience, and sharing facts and sources are good practices but insufficient without analysis and synthesis of ideas presented. Encouraging the adoption of propositions, debate and précis online.
- 11 Self-directed learning online, discussing the concept, its value, what behaviours are involved and demonstrating how online and physical resources can be used to develop thinking, add to and change impressions and ideas

received from classroom sessions, and how this behaviour is valued in the academic course (relationship to learning outcomes and purpose). In particular, demonstrating the choice of activities and timelines available online and how these might be used according to personal priorities and learning approaches.

- 12 Where synchronous discussion is used, how to use commands on screen, how to contribute and upload comments.
- 13 Personalising the virtual space, how to feel at home online without breaking university rules, using any tools provided to arrange the learning environment to suit study patterns, learning approaches and revision needs.

(List derived from Category 15 Online activities and Category 9 Preparation for online learning)

These elements will not make sense unless the online environment gives opportunities for these activities. For example, if the online environment is set up in a linear way (including learning materials and activities available in a timed sequence similar to traditional lectures) then self-directed learning will be enabled only as additional to basic required learning activities; and this will clearly be seen as an additional load by all but the most curious and self-directed learners. However, if the environment can be used in a flexible way, then self-direction and choice of pathways through the learning becomes possible, and, provided students are introduced to this choice and can see the benefits of it, more self-directed learning is a desirable core behaviour rather than an additional one.

The format of such online study induction will vary according to resources available, and the level of familiarity of students with similar online learning environments and activities, but ideally will introduce an active role for learners and both face-to-face and online modes where possible, to support both enthusiastic online learners and those less eager. Activities could then be varied to include demonstration, role-modelling, documentation, hands-on practice, assessment and feedback, just-in-time reminders and an ongoing opportunity for questions and collection of Frequently Asked Questions (FAQs) for general reference.

In view of the increasing experience of learners in online environments and the transition against which this study is being conducted, a further device becomes important in the online design and induction of learners: that of the link to further information. To describe all the above in detail a third or fourth time to a student already experienced in using

online learning environments is potentially a big disincentive to revisit the site. So learners should be given choices about the amount of information they are given on screen, or options to attend mini-skill sessions where they feel they need more help. Since the size of screens encourages designers to “chunk” text into small sections to make reading easier, further levels of information can be made available through links in even the simplest LMS, which students can click when more explanation is required. Provided the navigation to and back from the explanatory link is simple and clear, students can choose the level of introductory detail they require and learn to use only that which they need at the time, but also know where to find it, should they become anxious later. These “novice links” are a common Website device (e.g. click here for more information) but are currently less common in HE learning management systems, where sites are “designed” or populated by teachers. The “Higher” in HE does not preclude ignorance and anxiety in learners about any topic. An online environment can make it possible to choose reassurance and reinforce learning, avoiding anxiety at the touch of a button (provided tutors have conducted sufficient research into students’ use of the site and understands the areas needing explanation).

Increasingly, social software (including for example wikis and blogs) is enhancing the opportunities for collaboration between learners as well as between teachers and learners. As these “Web 2.0” objects become a regularly incorporated part of the HE online learning environment, we will also need to explore learners’ past experiences of using such objects and devise pathway projects which can bridge their existing expertise with expected social online activities, as well as presenting them with the affordances or potential of such software. None of these activities online is problem-free, as well as potential they also have disadvantages – for example added potential time burdens and navigational issues for the learner, which designers of learning experiences should seek to understand before wholesale adoption (for example, see discussion in Dron 2006b).

As mentioned above, Appendix 7 gives a practical example of how induction for students might look, based on the ideas produced through this research.

Future : research implications

The testing of these ideas will afford considerable opportunities for empirical research as effective inductions and personalisation strategies are evaluated in practice. In particular

the study offers pointers as to how the Salmon model could be developed to include in her Stage 1 (access and motivation) a more detailed introduction to HE learning with online resources and in Stage 2 (online socialisation (Salmon 2000)) a clear indication of the value of inhabiting the online space and developing the environment into the “purposeful medium” described by Salmon in a keynote speech at the University of Brighton Learning and Teaching Conference (Salmon July 2004).

It would be particularly useful to extend this research by testing the outcomes on larger groups of HE teachers, comparing the responses of those teaching full-time students with those teaching part-time students, as some of the induction issues could vary in these different contexts. It would also be instructive to test the outcomes on separate groups of teachers working with undergraduates versus postgraduates to look for variations in the skills, behaviours and knowledge required at different levels and how these might change expectations and roles in online environments.

A longitudinal study of HE teachers adopting online learning design (i.e. becoming involved in the adapting of instructional design techniques to their planning of learning and teaching with LMSs) over a five year period could be expected to produce fresh insights into ways of introducing students to novel activities and learning opportunities online and may produce new models of teacher-student interaction as status and relationships shift, although this area is already attracting much attention through the JISC e-learning programme (Mayes and de Freitas 2004) . The transitional context of this study has been demonstrated, so the recording and examining of that transitional development, and its impact on HE learners and teachers, will continue to offer many research opportunities in the near future. Additional studies of students’ perceptions of this transitional phase and their own views of the teachers’ and learners’ changing roles and their relation to the online environment would also be desirable.

It is also tempting to propose a study which would apply and test these outcomes relating to students’ preparation and personalisation of the online environment outside HE, both in other educational contexts and in workplaces where an appetite for e-learning is growing fast. Additional issues would need to be taken into account for such a study in workplace learning such as congruence of e-learning outcomes with job performance and reward, more challenging access issues, especially for non-office-based workers, and ways in which learning skills relevant to the workplace relate to the academic learning skills and behaviours identified here. However, the concepts of induction as proposed in this study

(and given some practical detail in the reflective chapter) could usefully be applied to a workplace context in preparation for e-learning.

The research has shown that the Higher Education staff studied, who see value in online teaching and learning, are less concerned with identifying students who are ready for online learning, than in developing ways of preparing students to get the most out of online learning. The research has also surfaced a range of issues, such as the evolving roles of both learners and teachers and the challenges of the online environment facilitated by Learning Management Systems, that are important components in such preparation.

Chapter 7 EdD Reflection

Introduction

A distinguishing feature of the Brighton EdD is the requirement to include within the final assignment a reflective account of the EdD “journey”. This chapter contains my reflection on the impact of the EdD on my development as a researcher and on my professional practice.

This chapter is divided into four sections. First, I use some systematic reflective techniques and ideas to develop my reflective view of the experience of conducting this study. This provides an overview of the process and stages along the way. The second section explores the immediate impacts of the research on my professional practice and includes some recommendations on how the findings and conclusions could be used to benefit students. The third section aims to summarise what might be called my development as a researcher and discussed events, actions and decisions, which have been triggered for me by the EdD. The final section looks at future steps and maps out directions for me as a researcher and the area of research I have undertaken. While this chapter continues to be of a level I believe appropriate for doctoral study, nonetheless it is a delight in this chapter to be able to adopt a more personal voice, becoming less sure and authoritative, as I leave some of the scaffolding of references and intellectual debate and focus on what is personal and lasting from an experience.

Systematic reflection

As a “people development” professional, outside my academic career, from time to time I am asked to run programmes for commercial organizations on reflective thinking and reflective management. From the techniques used in this type of programme, and in the spirit of experiential learning, I have taken three systematic processes which help me to guide others’ reflection and which, I hope, will help me here. I use the concept of “theories of practice” to explore “personal anchors” and mindsets, which is accessibly presented in PowerPoint form on the Web by Jacobs of Villanova University (2005). The second process uses frames (Bolman and Deal 1997) to reflect on the wider picture or context of

the action, and the third process returns to the personal perspective but uses a simple repertory grid approach (Kelly 1955; Pedler, Burgoyne and Boydell 1994) to try to understand more about my learning and activities in research. Finally, I focus on Bourner's Reflective Questions (2003) aiming to summarise my personal learning. Reflection causes an individual to take notice and make sense and meaning of specific events which may otherwise pass quickly into the passive recesses of the memory and fail to work as active opportunities to learn (Moon 1999 p38). I am keen to begin.

1. Theories of practice

"The practitioner allows himself to experience surprise, puzzlement, or confusion in a situation which he finds uncertain or unique. He reflects on the phenomenon before him, and on the prior understandings which have been implicit in his behaviour. He carries out an experiment which serves to generate both a new understanding of the phenomenon and a change in the situation." (Schön 1983)

Jacobs (2005) discusses a structure for reflection which he attributes largely to the professional practitioner approaches of Sergioivanni and Aviolo (Sergioivanni 1986; Aviolo 1999) at the top of which sit "practice episodes", which are characterised by intentions, actions and realities, these are the stimuli for reflection here. Underneath the practice episodes sit "theories of practice". These have something in common with the way Schön (1987) describes "reflection-in-action" in that they usually guide practice episodes unconsciously but may also be called upon for scrutiny during such an episode, as if we were consulting a second self to determine our next move based on all knowledge and belief accumulated to date. Accordingly, theories of practice include what Jacobs refers to as "mindsets and platforms for action" – the instant self-guide in times of need, but these mindsets themselves are based on a personal accumulation of beliefs, assumptions, knowledge gained from planned learning events (not necessarily the expected course content, as other learning may be unintentionally reinforced on a course) and knowledge gained from experience, which could be called emergent knowledge.

There is a deeper layer described in this analysis, which comprises the personal beliefs or anchors, called by Jacobs "antecedents", which underpin the whole structure. These antecedents stem from our personal educational background, but also our social, religious, economic and historical background, which will have affected our formation as individuals. Also sitting along with these antecedents will be elements we have added

ourselves, our self-knowledge, tacit knowledge and understanding, the way we have made sense of life for ourselves in the past.

To use this process, I answered a series of questions, as far as I could, bearing word-length constraints in mind.

I chose to reflect on the practice episode of the EdD, which I started in October 2001. My intentions at the outset were to use the study to solve certain vexing questions about my practice as an academic. Having experimented with “team rooms” (asynchronous threaded discussion areas) in the Business School intranet from the previous year, I was convinced (an emotional leap of faith) that their use could be designed in to a module (Learning and Development in the Chartered Institute for Personnel & Development (CIPD) Professional Development Scheme qualification for postgraduate part-time students) which was under pressure from resource constraints. Too few students wished to take this elective module, so in order to run it, ways had to be found to make the resource spread further. This meant a change to the established format of the module involving weekly lectures and seminars. I opted for a blended mode of delivery, then not being used in the Business School although there was one fully online course. This blended mode involved a mix of face-to-face and online sessions, the latter required new materials for online use and some kind of guided use of the asynchronous conferencing available.

My questions were completely teacher-centred: what size of group would be able to run in this mode effectively, how often should I hold face-to-face sessions, what kind of materials should be provided for online sessions and so on. I needed answers quickly as the course was running as I started my EdD. I was aware the doctorate programme was not about such quick results but was intrigued to find out how other teachers solved such problems and to delve into the literature to understand my problems in a more structured and connected way.

The actions actually taken are often quite different from the intended ones. The EdD at Brighton is semi-structured, so there was a process involving individual students, their cohorts as a group and other cohorts on the programme, into which I leapt with enthusiasm. This meant attending block days, research methods seminars, developing within an action learning set and producing a series of assignments at doctoral level, designed to develop education professionals into people who can advance their professional practice through research.

Using the lens of “realities”, it is simple to reflect on, and find analogies for, what was really happening in this practice episode as it stretched from Stage 1 (the first three assignments) to Stage 2 (when the doctoral infrastructure becomes optional). I had begun my studies with great alacrity, charged with the pent-up need to study and delve into ideas, which had developed since my previous part-time study experience, an MBA part-time over 3 years at the University of Aston, completed 18 years earlier. While anxious that my study skills would still be adequate, my main concern was the fitting in of study to the rest of life and work. As always for part-time students, time management skills became critical. Research quickly became for me a chocolate box, full of inviting objects (theories, new concepts, new language, new relationships, new questions), each of them equally exciting and more-ish, but often frustrating when the box had to be put away while I turned my attention to a survival diet of work and family priorities.

The chocolate box era has persisted, even through the writing of this thesis, the temptation to put aside the rest of life and gorge myself on this study was strong. However other analogies added themselves quite swiftly. By the time of the first assignment, a literature review on e-learning, I had adopted the habits of a crazed squirrel in Autumn, racing up trees to find nuts, then racing down again to bury them in the ground against winter, with the obvious consequence that retrieval became a major problem. These kernels of ideas and references frequently took root and became little trees, diverting me from the main focus; and the retrieval imperative led me to spend much time designing databases and spreadsheets, exploring software and investing in countless new folders. By the latter half of the programme, my retrieval needs had driven me to design a third version database in Microsoft Access® software to meet my need for jottings as well as grounded analysis of transcripts, and had led me to citation software, which is now my constant companion at work, and without which the production of accurate referencing would have been unthinkable.

A third analogy should be mentioned to explore the reality of this programme, one which I used when giving a paper on my current stage of research to Brighton’s Education Masters degree students. This time I saw myself as a deep sea diver. The sea had turned much murkier as my research progressed and it was difficult to spot the rocks on which to build my key conclusions. My oxygen supply was very limited and the sheer pleasure of dropping down into the water and re-orienting myself in the murk, as I picked up the research route, took precious time. Much too soon, I was alerted to the need to return reluctantly to the surface and resume a dry land life of current teaching and consulting.

Each supervision meeting was a refreshing splash, which strengthened my desire to dive again. This analogy cannot be taken too far, since it suggests a complete division between my research and professional life. That was not the case, as many of the ideas developed through the last five years were immediately adapted to use, at least for discussion with colleagues, if not triggering some different take on teaching and learning. However the separation of timescales was inevitably great, reinforcing the distance between the two activities: research and paid work.

The opportunities to be flexible in choice of topic through the different assignments was particularly helpful. After the initial literature review, my focus had turned to students' conceptions and I developed my methodological skills by learning about and attempting to apply phenomenography. This was an exciting phase and moved my thinking to focus on self-direction in learning as a potential key learning behaviour associated with successful online learning. The chance to evaluate an instrument to measure self-direction (Guglielmino 1977) led to a successful third assignment in the form of a small research study which used quantitative statistical method; I had previously acquired some limited familiarity with the theory but the practice was unfamiliar to me, and this broadened my mind on methodology. The final focus in this thesis on readiness for online learning has drawn learning from each assessment element of the EdD.

What does this tell me about the mindsets and platforms for action underpinning this practice episode? My belief in the centrality of learning to effective engagement with life and people has been exposed and strengthened throughout. Opportunities to attend research events have given me both easy pickings on ideas familiar to me and serious challenges to understand and apply different ideas to my own practice. For example, many of the research seminars related to teaching and learning for primary age children. While it is not hard to realign ideas into a higher education context, the practical outcomes and teaching concerns have sometimes been on the other side of a gulf, for example National Curriculum drivers and software for play. Yet links can always be made, if I am sufficiently imaginative, this is part of my belief system.

Assumptions are legion and have frequently caused me surprise as yet another is revealed in my thinking. Often when workshops run into difficulties or a well-prepared session does not go as well as planned, there will be an assumption about students' knowledge and context, or the depth of my grasp of a topic, which must be confronted. Assumptions revealed during the EdD have included the idea that I knew what learner-centred meant, and that it applied to particular types of teaching, rather than presenting as

an option in all manner of learning events and designs. Also my assumption that professional writing was simple for me, clearly an arrogance, but one I was often tempted to claim. This assumption has been broken down by the sheer effort it has needed to make sufficient time for academic writing, and the difficulty of focus when I was back with my chocolate box. I had also made all manner of assumptions about my knowledge of learning theory, which this work has challenged until I had to find some graphical way to relate ideas. The process has also revealed the extent of my dependence on tools to assist my memory; part of the extensive time I have needed to refocus on a particular part of the work has been to remind myself of previously actively known ideas and information, which must be forced out of passive cover. As a more general point, I have been frequently guilty of assuming that a “nod of the head” from a student or a common phrase in agreement means a shared understanding with others. This is dangerous enough with other teachers, and frequently causes problems, but is unforgivable when dealing with students, however blasé they appear to be about a concept. I should have understood better that there is a gulf between the enjoyment response to enthusiastic dialogue and the cognitive understanding of the concepts discussed.

Knowledge gained from the period of learning associated with the EdD has been immense on a factual and conceptual level. However, this issue of levels has been the most interesting, as much of what I now know, I did know before but at a more superficial level. What deepened was my construction of these old ideas, attaching different dimensions to their meaning and relationships with other concepts. Instead of encountering the upward face of these old ideas, wells were sunk beneath them to deeper levels of meaning using the construction tools of reading, debate, writing and thought. Of course, as we dig, we hit other connections, the cables, pipes and tree roots which lead to other ideas.

This, for me, is knowing things in a deeper way, understanding them in many contexts. One example here would be the idea of building bridges with learners before new ideas could be introduced. Professionally this was a given for me back in the 80s when I started developing training workshops, and the idea of pacing and leading from “Neuro Linguistic Programming” added a psychological dimension. However the course of this research has deepened the links between this idea of bridging and the concept of “scaffolding” from constructivist thought and just what that means for teachers in being able to shift explanations and examples of ideas to suit the developmental level of individual learners and to do this on many levels with many learners at the same time, especially online. A different dimension of the same idea relates to academic language and the need to avoid all but the most useful jargon with the learner at the start of their acquaintance with

concepts. This was evidenced in our Action Learning Set by a member, who could not tolerate academic concept words of more than three syllables and lost interest in research, partly as a result of this communication issue. This was an unnecessary negative outcome and related to the bridging needed for this candidate. Language and bridging is now really to the fore, as my current familiarity with learning concepts and online concepts, as a result of the research, makes it harder to share ideas with academic colleagues, who have not done a similar course of study. Naturally this will not stop the sharing, it just adds to my understanding of the bridging which must be done.

Much of the knowledge acquired and underpinning my EdD progress has been emergent and experiential. This is sometimes purely serendipitous, from being in the same place at the same time with people focused on the same discipline, or simply being sensitized to certain ideas or authors. At other times, the emergent learning has been the result of systematic intervention, such as Action Learning Set meetings, which, although fairly relaxed, have kept to the essence of action learning ground rules and allowed a synergistic meeting of minds, moving each of us forward along the EdD path.

Jacobs' final underpinning layer is antecedents – reflecting about these requires deeper self-knowledge and deliberation. Many of the practice episode dilemmas described above can be understood by awareness of personal learning approaches, which have always been conscientious and perfectionist, structure-seeking and balanced. The need to try different avenues of enquiry, to practice varied research methods, to undertake vast swathes of reading, and the difficulty experienced in focusing, particularly on one research project at a time, can be understood as the result of an insecure need for structure, coupled with strong natural curiosity in how things work and why. At my initial interview for EdD, one interviewer questioned my ability to undertake research enquiry over a sustained period, in view of my professional life which is full of daily variation in time, place, people and content and a resulting pragmatism. He was very perceptive and that, in a sense, has acted as a strong driver, not only to stay the course, but to prove to myself that sustained enquiry was desirable and achievable. So much so, that I put much hope and belief in the possibility of a continuing research career in my remaining 10-15 professional years.

2. Bolman and Deal (1997) organisation frames

The second systematic reflection uses four frames or perspectives to question an experience. These frames ask similar questions about emerging problems and

underpinning issues but from the perspective of a structural frame, a human resources frame, a political frame and a symbolic frame. Questions are broadly about problems found, evidence for them and constructive changes proposed, but force the reflection to take on board the organizational or system context of the event, rather than the personal thinking and attitudes revealed.

Structural frame

Taking the context of the University of Brighton which, in my case, funded my EdD programme through fee waiver as an academic member of staff in another school, there are few structural problems, since this system has encouraged and supported me through my research. Within this positive focus, the issue of teaching hours in relation to research has been a difficult circle to “square”. No sabbatical leave was available for any period of the study, however there was a fair system of bidding to reduce teaching hours in relation to the stage of the doctoral study, which was helpful. Had I achieved the EdD in the proposed four years of part-time study, this system would have been very supportive, offering greater reduction of teaching hours for the final year. However, personal circumstances interfered with the timetable of study, which meant that in practice I had most remission of hours when I was doing least study (a suspension of my registration for personal reasons). It was fortunate for me that the extra remission was not clawed back in the circumstances, but it did mean that in my real final year, the only remission available was the minimum amount normally relating to an earlier year of study. Such obstacles are impossible to plan for and this has not in the event stopped my progress to submission.

However there is a broader question here of the amount of time required for part-time doctoral study and the way both the time and the outcomes can fit into ongoing teaching responsibilities. We are encouraged to share research outcomes and innovations in teaching through staff seminars, but the accessibility of such study programmes to most teaching staff can be a problem, given the size and breadth of tasks involved in such study. It is perhaps unnecessary here to discuss the expanding nature of the teaching task, with administrative, marketing and pastoral responsibilities now featuring larger than the teaching component. But the evidence for an access problem to doctoral study is clear in my subject group, where colleagues struggle to fulfill scholarly updates, let alone to devote a substantial part of their lives to the achievement of a doctorate part-time. Colleagues are interested in research opportunities, but can see the kind of impact it has made on my professional and personal life and that of others in doctoral study, and are

making choices to avoid such heavy loads on top of teaching loads. In my EdD cohort, several drop-outs at different stages have related to workload and the major stretch of personal resources and impact of personal and professional lives of such a programme. What could be constructively proposed here? My school already runs Research Development Interviews for academic staff, where people can explore their research interests but at present this can be a lone process. It may be helpful to promote even more than at present the interests of all in the school with the specific intention of developing research collaboration. It may also be useful to run research seminars which share experience of the doctoral journey (by PhD and by professional doctorate) to enable colleagues to form a clearer picture of the pros and cons for themselves. Finally it may be helpful to review the possibility of sabbatical periods related to research programmes. While the bulk of the work is undoubtedly suited to part-time hours, there are times, especially during the writing-up phase where a sustained period of focus is particularly helpful. The chance of taking a 2 month or 3 month period for the purposes of writing up would be difficult to fit with teaching loads, but may be predictable enough to plan. In my own case, I have managed just three separate weeks of total immersion over three years, at a self-funded retreat, which have proved immensely valuable as times of intense activity and progress.

Human resources frame

This reflection asks for problems or issues which relate to interpersonal issues and here two problems can arise in professional doctorates. The first relates to the action learning set process which is, in this case, an integral part of Brighton's EdD. An action learning set is a particularly relevant way in which to provide personal and social support for students in small groups, and test out learning as we develop questioning insight to the research process through helping each other to challenge and progress study. The social component of this process is vital, not that set members need to like each other, but that the developing social interrelationships deeply affect the motivation to prepare for, attend and work hard at the set events. Unlike a community of practice, the action learning set has no legitimate peripheral participation. Everyone is required to work hard at the task and contribute fully from the outset. Learning outcomes are both individual and communal and the sense of shared value developed from an action learning set is immense.

This process is endangered when its members are not convinced of its benefits and fail to prepare for and contribute fully to the process, and when membership changes for other reasons. My set reduced in size from 6 to 4 in the first year and from 4 to 2 in the subsequent year. By this time, we had regrouped and opened the set to 3 members from a different set in our cohort, which had never had our positive set experience and had stopped meeting. The continuing success, in terms of motivation, interpersonal support, learning outcomes and frequency of meetings, of this set with moving membership was due principally to very clear ground rules agreed at the outset, when the set was facilitated, and an insistence on the maintenance of these rules throughout the life of the set. This involved some "induction" of new members, and considerable activity to ensure convenient meeting dates, places and notes for all by members. Had we not had such meaningful and clear roles and rules from the outset, our set too may have weakened and failed. What could be constructively proposed from this experience? This would certainly suggest a greater emphasis on facilitation at the outset, perhaps with two or more meetings facilitated at the beginning. It may also be helpful to conduct a six monthly or annual review or report back of sets, to allow constructive evaluation to take place, where a set is not doing this for itself. The benefits of a well organized set are too important to the continuing motivation and well-being of the student to lose through inadequate monitoring.

A second interpersonal issue relates to the relationships of supervisors with students. Clearly a very important element in the student's research development, this relationship is too often an apparently random draw. I have been very fortunate to have had not just one but two supervisors who have been engaged and engaging throughout the process, who have offered intellectual challenge and emotional support as well as practical advice, throughout my EdD research. It has not been necessary for me to try to impress or to hide any imperfections in my research activity, because honesty and acceptance have been prime values in the relationship.

There is some anecdotal evidence that other supervisory relationships have not been so successful, and this has often been traceable to a lack of honesty and sometimes a lack of knowledge of the process on the part of supervisors, though will also be due in part to the student's approach. This would suggest that improved consistency in the development of supervisors, particularly in this case for professional doctorate supervision, clarifying its distinctions (of administrative process and practice focus) could be useful. There is a mystic element to a supervisor relationship, sometimes based on sheer respect for a senior academic, sometimes inadequate understanding of the purpose of the relationship,

which sometimes prevents a student from asking appropriate questions and setting the record straight. I have seen this result in great emotional and intellectual turbulence and upset. It is important to give the relationship the best possible start and support. Students could perhaps be given a little more information on what to expect and what to do in meetings with supervisors, rather than leaving this up to both parties to question and share, although this would be an ideal and achievable outcome, provided each knows what the other is for and, as with the action learning set, is prepared to put in effort to make it work.

Political frame

There is a link here with the human resources discussion above, since there is a political dimension to the understanding of professional doctorates. Considered still by some academics to fall short in some way of the traditional PhD, this view permeates academic discussion and the self-perception of the professional doctorate student. We are still in a comparatively early stage of the development of the professional doctorate and should be regularly reviewing its position as a university qualification. Like any innovation, there is a need here to identify and promote benefits to a wider audience, and, to some extent, this is happening at Brighton. In my case there has been ample opportunity in my School to deliver ongoing research seminars, and to found with a colleague a small research group in Business e-learning with the potential to focus our understanding of the field and develop funded projects and doctoral research of a PhD and DBA kind (the Doctor of Business Administration is another type of professional doctorate) in the future. This activity has given the opportunity to discuss and debate the relevance and benefits of professional doctorates and to support their academic rigour and quality as research qualifications.

However, there is room for clearer promotion of the distinctions of professional doctorates to the university academic community, and to the business community, especially as a professional doctorate may be quite a different animal in different institutions. In the Brighton EdD, the recurrence of a practice focus, the greater reluctance to lose ourselves in literature review and intellectual debate for its own sake, coupled with a grounding in practice, or the ongoing desire to link strongly academic research with the practice world, lead us to adapt PhD processes to a different form and purpose. Still desiring the original contribution to knowledge, we are constructing a route through doctoral research to outcomes which will be intellectually rigorous and supported by appropriate literature

review, research methodology and analysis, yet are related to our professional experience and useful to its development. Less likely to be young and continuing a full-time academic research career to progress to a lectureship, we are situating our learning in a professional career where priorities such as cost, time, other professional bodies and user or customer outcomes count. Professional doctorate students often study their own professional practice or that of their colleagues and hence must be acutely aware of reflexivity and ethical issues. A PhD too can have a contextual anchor, but is less likely to have the researcher in the role of practitioner, except in cases of action research. Therefore the professional doctorate must use all the tools and processes of the PhD, yet also adapt to the work needs of this professional, who is also a student. This is not less than a PhD but could be considerably more.

Symbolic frame

This frame deals with vision and purpose, as well as symbols or rituals associated with the event or experience on which we reflect. The vision of the Brighton EdD in the Education faculty has been a strong one, and one which has yielded good results in the form of a continuing cohort enrolment since the year 2000. That vision has been successively shared with students and with new course leaders as well as faculty associated with the programme for supervision, block days or research method seminars, and increasingly with other research students and postgraduate students in the faculty. There have been similar professional doctorate initiatives in the university based on this model (health, business) and, subject to the consistency and clarity issues discussed above, the venture has been consolidated as an effective research model. As a student taken into the second cohort of this degree, there have been many uncertainties along the way, as the vision alone does not solve practical details and the novelty of the degree led to misunderstandings with administrators and other academics, as well as leaving students sometimes floundering as they were sometimes seen erroneously as PhD students and sometimes given much less status, especially in Stage One of the degree. However, the EdD at Brighton, as EdDs elsewhere, has matured and earned a confirmed and respected place among Faculty studies.

Its symbols and rituals have included Block Days (for progress sharing, introducing stages in the EdD process, sharing and discussing concepts related to educational research and team building within and across the cohorts), Action Learning Sets (already discussed

above) and Research Method seminars (in Stage One students are exposed to a variety of different approaches, methods and philosophies). One small symbol, which should relate to my own research, has been sadly hidden and underused: the virtual presence on “studentcentral”, the University of Brighton LMS. While there has been such an area, it has received very few hits and it rarely carries up to date information. A recent check found a new banner but very little content and no active discussion boards. Many of the conclusions from my own research could be applied here. The student role has not been presented as one which could be enabled or supported online, despite the tremendous potential for connecting and updating lone researchers working in professional and geographical isolation. The tutor role has not been recognized, so the mere existence of an online space has fallen into disuse. Even at a simple level of contact between supervisor and student, which is sometimes less organised than in my own experience, the online environment could have been helpful. Opportunities for online supervision could be explored, particularly in the case of external supervisors. At minimum a discussion board moderated at regular periods by the Course Leader, could have been helpful in providing timely responses to questions around regulations, formats and other process issues to part-time students who may be widely dispersed geographically. A potentially helpful environment, which could have encouraged sharing of information and development of identity as student researchers, was lost.

To make an online element work effectively in the EdD, my research suggests it would be helpful to prepare students effectively for this environment. This could involve promoting and discussing the potential uses of the online environment at Block Days, especially at the beginning but carrying forward discussions online into the face-to-face experiences of Block Days. It would need active design and moderation by tutor(s), as busy part-time research students are unlikely to make it work for themselves. It would provide a very effective place to showcase ongoing and completed research, linking to education databases, promoting seminars and guest speakers and offering regular items for discussion. Action Learning Sets could have private fora as from my experience, maintaining an effective email group with changes of membership is something which easily gets lost in a busy inbox. Computer-mediated communication alongside regular face-to-face Block days, sets and seminars, could enhance the research students' experience and build a databank of ideas and debates, which could become a precious resource, as well as a friendly and supportive environment. Without tutor response, this dimension of learning is disabled.

3. Behavioural reflection

Pedler's exercise in Backwards Review (Pedler, Burgoyne and Boydell 1994), offers a mechanical sequence of steps which make reflection on personal characteristic behaviours accessible, i.e. bringing them into awareness and then questioning them. This process is based on Kelly's repertory grid (1955). This is done first by identifying a number of meaningful events on which to reflect; I have identified 10 events purely in relation to the experience of preparing the EdD, which can remain confidential, but for illustration one event was my first research interview for Assignment 2. The second step is to find some way of picking up three of these events at random (post-its, numbers or keywords on cards etc). With the first and each subsequent group of three events (they should not be exclusive, most if not all combinations should be tried in turn), there is a process of comparing the three events to find dimensions of difference, which relate two of the events but exclude a third. In my reflection, I have identified one of these dimensions of difference as whether the events involved a shared understanding of purpose or not. The positive (e.g. shared purpose) and negative (e.g. no shared purpose) of each dimension is labelled A or B. This process is repeated until at least 6 dimensions of difference are identified, all of which are then set out in table format (see Figure 7.1 below) and each event is then checked against the dimension and coded A or B.

The final steps are to compare row patterns of As and Bs looking for relationships, especially identity or mirror images, then to analyse what these patterns could mean. This process can be time-consuming and sometimes furnish relatively little analysis, although in this case, it is possible that revisiting the dimensions and adding to or adapting them appropriately may yield further information.

| Dimension of difference | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|----|
| 1. High confidence level A Low B | A | B | A | A | B | B | A | B | B | B |
| 2. Felt like a novice learner A Secure knowledge B | B | A | B | B | B | A | B | A | A | A |
| 3. Involved large group A Small group or individual B | A | B | B | B | A | B | A | B | B | B |
| 4. In "teacher" role A "Learner" role B | A | B | A | A | B | B | A | B | B | B |
| 5. Shared understanding of purpose A Not B | A | A | A | A | B | A | B | A | A | A |
| 6. Actual research activity A Other activity B | B | B | B | A | A | A | B | B | A | A |
| 7. Well prepared for this A Not B | A | A | B | B | B | A | A | B | A | A |
| 8. Needing support A Giving support B | B | A | B | B | A | A | B | A | B | A |
| 9. Formal situation A Informal situation B | A | A | B | B | A | B | A | A | A | A |
| 10. Positive personal achievement A Not B | A | A | A | A | B | B | B | B | A | A |
| 11. Handled this well A Not B | A | B | A | A | B | B | B | A | B | A |
| 12. Representative of "researcher role" A With peer researchers B | A | B | B | B | B | B | A | A | A | B |
| 13. Strong emotional feelings A Not B | B | B | A | B | B | A | A | A | A | A |
| 14. In my workplace A Not B | B | A | B | B | B | A | A | A | B | B |
| 15. Congruent with career objectives A Not B | A | B | B | A | A | A | A | A | A | A |

Figure 7.1 Repertory Grid for behavioural reflection based on Pedler, Burgoyne and Boydell exercise (1994)

Analysis

Rows 1 and 4 are identical, which seems self-evident since a learner's role is unlikely to be consistent with a high confidence level, yet on reflection there are many life situations when I am confident in a learner's role. So the choice of events from my research programme alone may be suggesting that as a novice researcher, my confidence has

been challenged. This makes sense for me, as it has been the area of greatest risk in my life over the last five years.

Row 1 and row 15 are not similar in pattern, which suggests this risk is not connected with career worries, but more with a challenging and questioning professional area which requires careful precision, high-order cognitive skills, and sharp debate, sharper than other professional areas. The risk also affects my teaching, since research outcomes have challenged some assumptions, "knowledge", of which I was previously sure. The deepening understanding of learning has brought with it much vulnerability along the way, another reason for seeking structure and support.

Rows 1 and 2 are mirror images in 9/10 cases, which means the same as a similar pattern of 9/10, since there is no constraint on which end of the dimension is labeled A. In my first pass through this data, I considered removing one of these rows, as they were so close in meaning, but there is a logical condition where confidence is low yet knowledge is secure, as in event 5, since confidence can relate to emotions, prior experience in a relationship, mental preparation etc rather than simply secure knowledge. However in most cases for me on this research programme, secure knowledge has been related with high confidence. This can also be understood in terms of risk, since the greatest risk areas for me are where my knowledge has been challenged or poor, rather than other factors affecting my confidence. This is the behavioural pattern which is likely to have led to very detailed research, the use of a method with which I was fairly familiar, and wide reading, often repeated for consolidation.

Rows 2 and 8 coincide 8/10 times, suggesting a close association between feeling like a novice learner and needing support. This seems self-evident, yet could be looked at from the other direction; when giving support, I tend to feel secure in knowledge. While no causal relationship can be predicted from this, giving support is not necessarily a "knowledge" issue. This may suggest that I seek knowledge before I am able to give support to others, whereas many people give support without the benefit of knowledge, on the basis of sympathy and emotional support. This could describe my activities outside the research programme, but within it, knowledge acquisition has played an important role in supportive communication with others.

Rows 5 and 10 show the next closest relationship (7/10 coincide), suggesting that a shared understanding of purpose during an interaction is often associated with a positive personal outcome. Earlier in this chapter I have referred to difficulties encountered when

there is little shared understanding of purpose through language, this can also happen when ground rules or agendas are not made clear, so seeking that clarity is a priority for me.

It is unexpected that rows 1 and 12 do not closely coincide (only 6/10 are similar ratings) as I would have anticipated that my insecurity as a researcher would have affected confidence levels. Again, on reflection this is not a necessary relationship, as I may be just as unconfident with peers in research as with non-researchers, where my voice may be less challenged.

However there is a slightly stronger association (7/10) between rows 1 and 11, relating confidence levels to effective handling of situations. A 7/10 relationship is far from conclusive; I coded the confidence level on the beginning of the event rather than the outcome, while effective handling is an outcome state. No causal relationships can be validated by this type of data, so there is simply a tentative suggestion that going into a research-related event with low confidence was more likely to lead to poor handling of the event. If the analysis is done on non-research events, these dimensions are closely linked for me, usually prompting detailed preparation for such events.

Two more pairs of rows have a 7/10 similarity. Row 3 and row 4, suggest that in “teacher” role, I may be doing something which ensures mutual understanding of purpose, whereas in “learner” role in this research programme, I have felt less able to question purpose and challenge others’ understanding of purpose. In a continuing research role, in which I may still experience insecurity on the basis of this simple analysis, I should try to adopt a more questioning and challenging approach at an early stage in events to ensure shared understanding.

Also row 4 and 11 have a 7/10 similarity (not the same pattern as row 3). Again this seems to support the observation that in “teacher” role within the EdD research programme (for example when disseminating research) I am more likely to handle a situation well. This is a fairly straightforward finding, since it had been 18 years since my last formal “learner” role, but the whole of that period had been spent occupying a “teacher” role in and out of academe. This reinforces the suggestion that I should develop confidence as a researcher, since some element of a “learner” role will always be present in research and I must learn to handle this more effectively.

This last finding is consistent with the 7/10 similarity between rows 1 and 3, where I am reporting higher confidence levels with large groups than with small ones. My training and teaching background is delivering large group confidence, but I am feeling more vulnerable in smaller groups or one-to-one in relation to research activities.

There are few other obvious relationships in the data, but the flavour of this reflection has produced different insights about my role as a researcher from the other two processes of reflection. It is important not to put too much weight on an apparently systematic process like this, since it is, like all reflection, based on self-report and, more importantly, coding and choice of events could vary over time and produce different results. However as a technique to surface some insights into personal behaviour, it has been useful.

The lessons I draw from this section of the analysis are:

- My self-confidence in research activity has been lower than in other activities
- The risks involved in education research have had the potential to destabilise and render not just strange but vulnerable those ideas and that knowledge which I use everyday in teaching and learning
- I tend to counter risk with detailed groundwork and background research and reading, and do this before I feel confident in giving support in these areas to others
- I gain most personal satisfaction from dialogue with others which is based on clarity and shared understanding
- I should aim to bring the questioning and challenging approach I use in teaching and learning to bear more on research group activities.
- My understanding of the anxieties of a learner's role in formal education has improved, not only can I do something about this for myself, but it is useful to be reminded of this in relation to my teaching.
- This process of reflective analysis could be useful in helping students to reflect on their earlier and current online experiences prior to embarking on HE study with online environments.

4. Bourner's (2003) reflective questions to summarise reflection

To attempt to summarise the reflective section, I will use Professor Bourner's reflective questions, which I use regularly with my students for developing reflective practice. It is particularly interesting to compare the systematic processes above, with this set of searching questions. I believe that these questions work as a silent interviewer, because

they ask for personal information and are framed in direct, accessible language, they personify in some way a reflective and supportive listener. They are questions people want to answer.

What happened that most surprised you?

This is difficult to pick from such a sustained period, but the major surprise has been the enduring attraction of research for me. Like most people, I get excited about new ideas, but typically the magic fades once the work involved in a new idea or activity becomes difficult to tackle or repetitive. Both these conditions have applied in this research programme. There have been conceptual difficulties such as the relationship of theories about self-directed learning and about learning philosophies in general; and there have been repetitive routine tasks in the detailed research analysis of interview transcripts, including most of the transcribing itself. Yet the pull of this activity has not failed throughout the five-year period and it has not needed any false enthusiasm to goad me towards progress. This bodes well for future research activity.

What patterns can you recognise in your experience?

A number of patterns have been identified in the reflective processes above, but reflecting afresh about the EdD experience, there is a strong pattern around the occasions of Action Learning Sets. Although these took place only 3 or 4 times per year, their similar agenda and patterns of interaction were a comforting core of research activity, as well as providing a network of supportive relationships with peers facing similar challenges. Even the almost complete change of membership after the first year barely disturbed the rhythm of these meetings, as new members were keen to follow a proven pattern and accepted existing ground rules. Set meetings never failed to be uniquely interesting in themselves, sources of reassurance where colleagues were able to be open and honest with each other, and opportunities to grow in shared understanding of what research meant for us. This was helped along by locating meetings in each others' homes and providing excellent hospitality, which made every set worth making time for, even without the academic attractions; however the very few times when members failed to prepare for sets demonstrated swiftly the academic core value of the process.

Another pattern was the boost of meetings with my supervisor(s), where any kind of learning was legitimate on top of mutual agendas being achieved. The personal support I

have received has been generous and always available, through personal and research difficulties, an open well from which to draw encouragement, but a well which never looked so deep that I would drown (perhaps a series of steps into the deep end would be more accurate). To learn how to deliver this kind of supervisory support is an ongoing and priority aim for me. Such encouragement was given through both Stage 1 by Professor Bourner and in Stage 2 by Professor Bourner and Dr Dron. Like the action learning sets, even when difficult questions had to be addressed, these meetings were consistently supportive and inspiring.

A final notable pattern was the contrast between the excitement and pleasure of carrying out research interviews or surveys (the latter in Assignment 3), preparing data from these activities for analysis and searching for appropriate literature and the lengthy drawn-out reading and recording phases associated with literature review and writing discussion chapters. The latter are not my favourite activity as I have a painstaking approach, which tries to check every detail as I go along, a behaviour which interferes with the “flow” of breaking new ground, gathering data and finding new and excitingly relevant sources.

What was the most fulfilling part of the experience? And the least fulfilling part? What does the experience suggest to you about your values?

The most fulfilling part of the EdD has been the constructing of new patterns of ideas, and encountering new insights. Developing reflective analogies and structures and patterns in the data, or shapes through which I could relate theories – these are the joyful achievements.

The least fulfilling part has been the dotting of i’s and crossing of t’s in checking and re-checking my understanding of others’ theoretical constructs to ensure I understand and can apply them. The first time I read about new ideas and concepts, my mind races ahead to apply and play with them, that is enjoyable; but I find it hard to reassure myself that I have understood sufficiently well without replaying and re-reading and re-checking sources. This is a voluntary constraint from a perfectionist background and is difficult to cast off. The quality of my work would, I am sure, suffer if I did so.

My values of conscientious application and careful prior research before professing knowledge, together with a relatively slow reading speed, play havoc with time

management. Yet I cannot sleep, nor can I facilitate others' learning until appropriate research is done and checks complete. Anything else conflicts with my sense of moral duty to learners. I am happy to learn alongside others, but always feel I must do more work to get to the same place. This slight intellectual inferiority complex has been in my make-up since childhood, despite the best efforts of good teachers to instill confidence in my abilities. In many senses, it works to my advantage and to the advantage of others, as I can be relied upon to check facts and not to make extravagant claims without foundation. Perhaps this has limited to some extent the reach of this piece of research, where I have sacrificed far-reaching and dramatic impact for careful and thorough analysis, producing well-supported conclusions which will not rock the academic world, but are intended to provide a new mounting block for efforts to support students in an online world.

What happened that contradicted your prior beliefs? What happened that confirmed your prior beliefs?

I had some unhelpful beliefs about my capabilities and the distance between them and doctoral level achievement. I sincerely hope to have these beliefs refuted, as they have been so far by supervisors' feedback on earlier and ongoing work. Beliefs about the lack of clear guidance and consensus on online learning have been confirmed. I was not the only teacher who was floundering with new technologies. I have also found other teachers in HE who are as excited as I about the potential for learning released by new technologies. I believe that learning management systems are unlikely to deliver a brand new type of learning. However the affordances of these technologies, and doubtless generations of further new technologies, can be put to learners' advantage in new ways rather than old ways. Literature and practice, which aim to replicate old methods with new technologies is unlikely to succeed, since the old technologies are arguably more congruent with old methods. Discovering enthusiastic teachers who have vision and are prepared to experiment whether institutions are ready or not, has confirmed my belief in continuing to learn how to teach, through innovation and feedback, reflection and theory generation, treating the whole of teaching as an experiential learning cycle. This is a world away from recycled lecture notes and, in my field, narrow self-defeating concerns about privacy and intellectual property.

How do you feel about that experience now compared with how you felt about it at the time?

This should really be answered later this year, when the viva experience is close. I feel nostalgic for my fieldwork activity and desperate to put myself back in that experience in further research projects. It is only right that academic research should be fully evidenced and supported by meticulous cross-reference with other published work, but that does not make this a longed-for activity. It is a proper price to pay for the achievement of new data and fresh ideas and theories, and ultimately new “knowledge”.

What does the experience suggest to you about your strengths?

My strengths, suggested by the EdD research experience, include careful background work, creative approaches to presenting ideas, the ability to enthuse others with ideas, a certain facility with software and the ability to develop other researchers.

What does the experience suggest to you about your weaknesses and opportunities for development?

My development areas include procrastination and using the adrenaline of deadlines to force myself to write literature reviews. My time management has improved markedly during the last five years from necessity, but further value must be squeezed from the present moment to begin to complete the research agenda I have ahead and maintain my involvement in teaching. I also need to think bigger and perhaps take more risks. I have no trouble getting big ideas but this has consistently led me to “biting off more than I can chew” in terms of breadth of research focus. Thinking big must be allowed to develop with less constraint from an over-cautious approach to detail. Encouraging team-work in research to share out the detail checking, although maintaining oversight of this myself to keep me sane, may be a good way forward. Continuing to use citation software and learning logs effectively will help me to retrieve and confirm earlier ideas and references, rather than having to re-invent (the ideas) or re-find (the references).

How else could you view that experience?

From the perspective of my family I could view the EdD experience as a strange preoccupation which has put a few activities on hold, although on balance I have been able to make room and time for important family events and priorities. Nonetheless their support, especially that of my husband, has been genuine and indulgent.

From the perspective of my employer, Brighton Business School, again I can see indulgence to the extent that I have been allowed funding, some research hours and conference attendance, and to focus on an education field rather than a business management field. I hope to repay this indulgence through the development of a business e-learning focus, funded research and supervision of students in this field, as well as involvement in the Business School's own professional doctorate, the DBA. I have already contributed to the School through the research group by supporting colleagues' development with our learning management system, and by sharing and disseminating my learning about learning with colleagues and students. This is an ongoing action.

What did you learn from that experience about how you react?

I learned that I am vulnerable to what I experience as vicious verbal attack, even from consenting colleagues in research seminar settings, and must develop my ability to respond constructively and positively to those who hold contrary views to mine on online learning. I am not describing physical or pre-meditated viciousness here of course, but rather a mild venom or point-scoring behaviour, which seems reserved either to academics who feel secure in their territory and like to spar, or to other colleagues who genuinely feel threatened and insecure around online learning. I would see this behaviour as differing from rigorous and searching criticism to test new ideas, which is clearly legitimate in HE, but when applied to the process of developing ideas, is apt to stifle creativity.

I react to difficulties by logic first and then by creative approaches; I relish the challenge of helping learners find ways to solve problems. I react to major setbacks through dialogue with others, finding support and good ideas when needed.

I react to professional tasks with thoroughness and as much planning as can be mustered in the time frame allowed.

What other options did you have at the time?

I could have chosen a much easier life and stuck with teaching! I could have postponed research until there was somehow more time, but it would not have happened. As it was, the EdD programme was timely, its second year coinciding with my daughter's move to university away from home. Planning alternative sources of challenge, the EdD was an appropriately fulfilling choice, which has kept me more in touch with my daughter than ever.

In terms of the detailed approach to the EdD, I could have chosen simpler research methodologies and narrower topics, or replicated the survey method used in an earlier EdD project for this thesis. However, the range of methodology chosen has usefully developed my breadth of abilities as a researcher, and the topics have been immensely relevant to my teaching practice and contributed, and will hopefully continue to contribute, to my teaching career in addition to my research career.

Is there anything about the experience that was familiar to you?

Re-immersing myself in Grounded Theory was to some extent familiar, but I know far more about it now, than I did when using it for my Masters degree in the 80s. The development of questionnaires and interview frames has strong links with my non-academic work, where research audits often feature and use similar techniques. It was good to find how much I knew about interviewing and survey design (the latter in earlier EdD projects), although this had to be backed up with wide reading.

What might you do differently as a result of that experience and your reflections on it?What actions do your reflections lead you to?

While I do not wish to accumulate further qualifications, the EdD experience and my reflections on it have reinforced my determination to continue with research activity, beyond the dissemination of the work in this thesis, taking the conclusions into the business domain. Future research projects could benefit from the tools I have found invaluable in this research experience (citation software, databases, action learning sets) and my increased understanding about the activities I find onerous and how to carry them

out effectively. I have found that concentrating for periods of 3 hours or more is essential for good reading and writing, and for the last two years have taken an annual week-long retreat to progress research activity away from all daily distractions. Future research projects will need this kind of space to be effective, they are difficult to run in narrow bands alongside normal teaching and business activity. So research funding will be necessary to buy out from some teaching hours, or blocks of time will need to be reliably set aside for research activity.

In my behaviour, I need to develop confidence from the EdD experience to challenge and question more when I am in a learner's role, not to accept status as authority. I must continue to write for academic purposes, partly to disseminate research, but partly to maintain writing "fitness", as it is too easy to fall back into summaries, bullets and report style in daily professional life. Extended writing practice as begun in this EdD programme, should begin to loosen up the "stop and check" mentality I have found necessary to balance, what I have experienced as, knowledge insecurity.

In my academic tasks, I want to build on my experience of being expertly supervised, by developing supervisory skills to support other researchers and doctoral students. I already have a reasonable load of Masters degree dissertation supervisions, and continue to learn through participation in the academic community and discussion with colleagues about the supervisory role.

In summary of this systematic reflective section, each of the processes used has contributed some confirmations and some new elements to the reflection. Techniques such as these can offer structure and stimulus to reflection, which can be an exhausting but very rewarding activity. The outcomes are identified actions, developing self-awareness as a researcher, and suggestions for action in an organisational context to address the few problems encountered in the EdD experience.

The immediate impact of research and part-time study on my practice

At the outset of this doctorate, it was clear that the questions I sought to answer were time-pressing and needed responses, which were swift rather than necessarily well-researched. So in the first year of this study I chose small study groups for blended mode learning, I chose an alternating pattern of face-to-face and online sessions to support students' study programmes and I re-designed lecture notes into a quite different format called a "thought-starter", which combined a summary of references to relevant literature with a commentary on key sources and a series of challenges, activities and questions for students. However, this document remained in Word format when uploaded to the Blackboard® system. I began to use discussion boards in a more structured way to entice students into the discussion and used Salmon's model to help students acclimatize before requiring more original and thoughtful contributions. I built a course and module environment in Blackboard, which had a structure for navigation, links to key administrative data and links to wider Web sources to support course content. This was all fairly conventional thinking, although most lecturers in my school at that time were not doing any of this.

Although not well-researched initially, my studies for EdD began to contribute quickly to my understanding of what might be achieved in this online environment. I experimented with the technology as additional capabilities were acquired, and endeavoured to gain as much detailed feedback as possible in an ongoing format from students using these online areas. What were the results? Exciting on the one hand as students engaged in reflective thinking in the discussion boards and began to use the Weblog to construct personal caches of academic content and ideas, contributing to learning banks of theory and critique and supporting each other online when I did not log in for a day or two.

On the other hand, I experienced well-documented problems of slow take-up and rapid melt-down of activity online related to the start and end of module periods, some students resisted online activity but profited from the efforts of others and still others entered the online space with great reluctance and complained about having to do so. I have reached a much greater tolerance and understanding of those who find working online difficult or uncongenial and have begun to understand the complexity of reaction to this environment. Far from being simply a case of personality characteristics, prejudice or learning style, a student's response to working in an online environment to achieve learning, on the basis of my research, has more to do with their expectations of what learning is and how they might achieve it, plus the tutor's perspective of their role in the student's learning.

Thus my use of that research has led to a less prescriptive demand of what students are expected to do online but much greater emphasis on what activities and expectations we have as tutors of what students should do to learn. I now discuss learning as a process with students on a regular basis, especially at the start of any module and try to ensure they understand the idea of self-direction in learning and the way meaning can be constructed through a range of sources by active thought and experimentation. I provide a detailed induction for students before online activity is expected, including hands-on practical exercises with feedback. See Appendix 7 for guidelines on such a programme.

I also enable the cohesion of learning groups through optional private fora online and give examples of how this works and how it ties in with the learning outcomes of a module, rather than simply expecting students to go and use it. I no longer jump at experimenting with new technologies unless I have fully considered the learning outcomes and added value they provide and find them consistent with the teaching and learning objectives of the programme. Teachers have to learn their trade and an EdD is a suitable developmental process in which to learn practical improvements supported by research and published debate.

So the time zone of the research programme and the more immediate demands of teaching with online technologies have had a happier coincidence that might have been predicted. My practice has been continually informed by my reading and research, and my research has gained searching questions from my practice as a teacher.

The other immediate impact of studying on my practice has been the pull to publish. Prior to starting this programme, the idea of academic publication was a distant dream and well removed from the teaching reality of my academic life. With the advent of EdD study, the need to publish has grown as one of the main reasons to conduct research, i.e. to disseminate the results, and as a realistic possibility with the additional reading and writing involved in EdD giving me an ideal practice ground.

This has led me in various directions. First to put in small bids for research grants, one of which was successful and resulted in a research project with a colleague on students' first experiences and information needs at university, with a widening participation agenda. This research and report was completed in 2005 (Greener and Rospigliosi 2005) and used both qualitative and quantitative methods to analyse questionnaire data from 280 students starting university in 2004.

A second initiative was to aim for publication of research done for earlier elements of the EdD. The second assignment on students' conceptions of blended learning was revised into article format and sent to the Journal of Education Media, which was running an edition on blended learning. This initial experiment was unsuccessful but produced useful comments from readers, which was a healthy process. This article with some small amendment was later submitted for the 4th International Conference on Education and Information Systems, Technologies and Applications (EISTA '06) conference in Florida and was accepted as a best paper in section for the conference proceedings (Greener 2006).

The experience of giving the paper at EISTA '06 gave me a great learning experience, which I have repeated at subsequent conferences (papers given at ICEL 2007, ICICTE 2007 and UFHRD 2007) where I presented some of the ideas from both earlier assignments and this final stage of the EdD. I also hope to focus more attention, once this thesis is complete, at journal publication, which I see as a necessary pathway to continuing researcher development.

There will be further practical outcomes of this study as, on the basis of the detailed preparation and induction for students set out in Chapter 6, I hope to enhance the way my students are prepared for online study, and aiming to disseminate these ideas as widely as possible, along with endeavours to refine and develop them through constructive academic debate and further research.

To what extent have I become a researcher?

This exciting experience has introduced me to the potential and highs and lows of research, and this cannot now be unlearned. My approach to practice is much more conscious of learning and teaching theory and debate and my approach to problematizing and responding to questions through systematic research has changed through this experience.

To what extent I may begin to claim the title of "researcher" is bound to be tied up with the outcome of this thesis; but I have now uncovered a dimension of academic practice which I would be loathe to leave. My conclusions in this research have led to new ideas about the role of teachers and there is much to explore here, especially in this time of transitional adoption of new technologies. Further study ideas were set out in my

Conclusions chapter but are not a passive list. My priority would be the application of these ideas to a non-HE context, which in turn will doubtless force me back to new thinking in my academic role. The ideas presented here around learning preparation for students should be seen in relation to all learners with new technologies as media for that learning. While my current study cannot be generalized at present, further studies could help to test these ideas and find workable ideas for students' learning support.

As seen earlier in this reflective chapter, I have much confidence still to build as a researcher, by publishing and attending further conferences, but also by increasing my questioning of assumptions about learning and teaching with colleagues. I remain convinced that an active link between the roles of teacher and researcher can produce effective synergies.

Through studying for the EdD, I have become sensitized to opportunities related to my research so, rather than staying on a single track with the thesis, a number of spin-off activities have resulted. I have already mentioned the funded widening participation research completed in 2005 on first generation university students. In addition, in the very early stages of this study, I produced an extended learning log on my experiments and experiences with our Learning Management System in Brighton. These eventually became "50 Tips on studentcentral", originally a single document but some time ago became the core of instructor tips included in the Ask Emily help section of the LMS. This process brought me into regular contact with the Learning Technology advisor team and much learning resulted for me, as I opened up a new channel for learning about the LMS, which has supported the last few years of experimentation. In addition, the 50 tips have been published within studentcentral and helped the team to understand an academic approach to the technology. There are now many more instructor tips added, as academics and technology advisers alike grapple with the interface between pedagogy and technology updates.

I have also mentioned briefly the founding of the Business e-learning research group (BeL), which has led to other research activities and outputs. BeL has benefited from contact with other research groups in the Business School, and being connected with it has enabled me to attend research group leaders meetings, from which considerable learning has resulted about conferences and journals, funding mechanisms and colleagues' research interests. As mentioned in the Frames reflection above, this is a great resource which could be disseminated wider for those interested in a research career.

Part of BeL's mission has been to support teaching and non-teaching staff in the School in their use of the learning management system (studentcentral). As a result I have been involved in delivering three staff seminars over the last 3 years, sharing current research findings and practice with staff and enabling them to find their own way to engagement with the technologies. I also continue to offer one-to-one support to staff as they choose to use different aspects of the technology. There has also been a recent staff seminar on current practice with studentcentral, as versions evolve and new ideas are tried out, it is important to share those innovations to spark off further ideas amongst the whole staff group.

Another spin-off from this research has been the development of a strategic approach to use of studentcentral, initially with the Professional Programmes group in the Business school. Working with colleagues, I have used my research and practice to develop a consistent format for course and module areas, and the links between them, which has been successful with students and has now been rolled out to the undergraduate and postgraduate areas of the Business School. This led to a further seminar for university colleagues supported by the Centre for Learning and Teaching to share this strategic approach, which has differed considerably from the approach in other faculties.

This process of dissemination of practice innovations, supported by my research, has also led to a paper at the MA Education students' conference at Brighton and two sessions at Brighton's university-wide Learning and Teaching Conference (2004 and 2005). The particular attraction of this area of research is that it brings with it the opportunity to meet many other practitioners and researchers, both beyond my School in my own university, and through attendance at seminars and conferences, and my own research interviews, in other HEIs.

My first conference paper, referred to above, at EISTA '06, has been the next major step along the researcher journey for me. I am unlikely to take this journey one step at a time.

Future directions

Finally it is important to address specifically the future directions I hope to take, both in research and practice.

First in my practice, I have discussed above the kind of ongoing development of course and module areas on studentcentral, which have resulted from, and been triggered by, my reading and learning in this programme. I am beginning to turn my attention as a teacher to assessment online and how this fits with existing and planned learning outcomes. The improvement of module environments, through not just my research, but student and moderator feedback and regular staff team discussions, offers opportunities to improve learning for both myself and my students. In line with my findings on the evolving teacher's role, I am concerned to make transparent my teaching beliefs to students and enlist their engagement in a more equal approach to learning and teaching. This is particularly helpful in my teaching of professional part-time students, where they have much experience and expertise to share and online we can explore new competencies and test theories in an open way to build new models of practice together.

I have been using the "blended mode" involving a pattern of alternating online and face-to-face sessions in two of my modules for some time now and have developed some experience in practice to test out and challenge my research findings. The major change which will result from the completion of this research is to design the online environments for this teaching to be much less linear, to allow more freedom of choice for students who wish to choose their path through the content. Some structural elements will persist, but only in relation to the scaffolding of later learning, as their understanding of the field develops. The students generally show some anxiety about online activity, particularly freedom to choose what to do when, as they are professionals with usually a strategic approach to gaining their professional qualification and prefer to choose directive patterns of teaching, yet this is inconsistent with a postgraduate level of learning and does not support the final dissertation, where they must take a much greater degree of responsibility for their study programme and methods. The introduction to blended mode modules, and the general course induction, will change on the basis of the induction issues to be addressed, and this, I hope, will reduce anxiety.

At the same time, I hope to use the staff seminar and working paper systems in place in my School to disseminate to colleagues some of the outcomes of this work. The more we can encourage academic staff to discuss these technologies, the more likely it is that we can develop a community of practice which can genuinely share and develop new understanding of teaching and learning, while encouraging the peripheral participation of those as yet less convinced of its benefits to pick up ideas and develop their thinking. All academic staff are required to have some connection with the LMS. By increasing

communication about the published research and my own findings, I can try to break down further some of the negative attitudes which persist.

To tackle this same issue on a wider front, it will be necessary and desirable to disseminate these research findings through conference attendance and publication. The long transition described by Gilly Salmon (2005) as moving from “flapping” to “flying” with the new technologies, can be achieved using traditional academic methods of argument and counter-argument, provided those arguments are of a generic nature, tackling key pedagogic issues, rather than simply documenting individual innovations module by module. If I can contribute to this debate on the basis of this and subsequent research, I will have achieved both life goals, achieving a professional doctorate and developing a new career direction in my fifties, and professional goals, accelerating my and others’ learning about factors affecting learning online. I hope that HE teachers will be able to see the point of getting onto that trampoline.

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APPENDIX 1

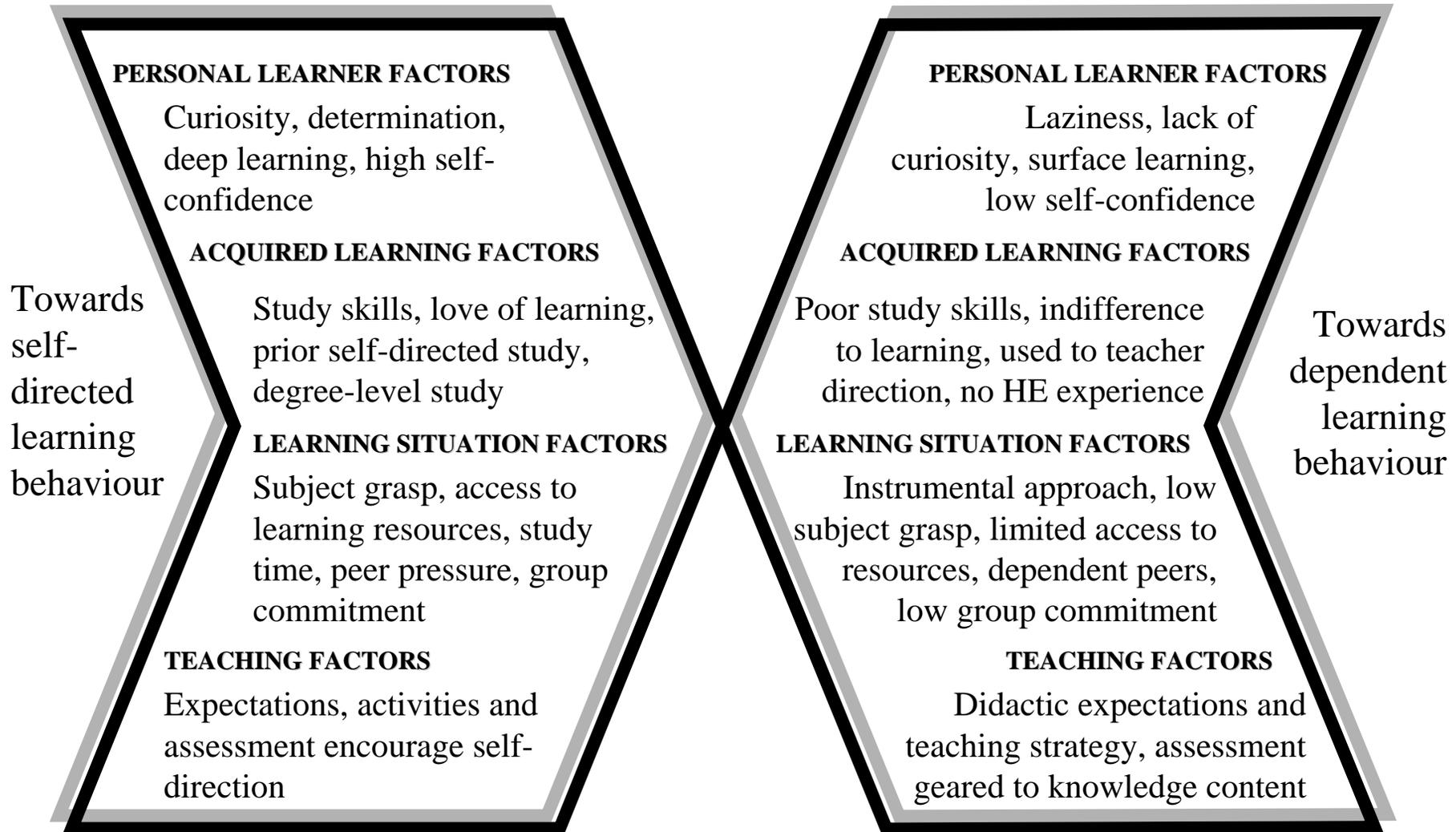
Glossary of abbreviations and technical terms

| | |
|-------------------------|--|
| AMO model | Factors affecting staff performance in organisations identified by Peter Boxall and John Purcell as Ability, Motivation and Opportunity (see reference list for full details) |
| Asynchronous discussion | A discussion conducted through a learning management system (<i>LMS</i>) via a keyboard, where participants (learners and teachers) do not have to contribute or post messages at the same time. This is usually conducted through a message or discussion forum, which enables <i>threaded</i> presentation of posted messages, to which replies can be added at any subsequent time. |
| Blended learning | Used in a variety of ways, but in this thesis used to describe a learning and teaching strategy which includes both face-to-face and online activities and/or events. |
| blog | Weblog, similar to a learning log or diary but written online, usually accessible to others |
| CAA | Computer-Assisted Assessment Centre referred to by a respondent in research http://www.caacentre.ac.uk/ |
| CMC | Computer-Mediated Communication |
| e-learning | Many definitions exist and conflict. In this thesis, e-learning is taken to equate with <i>online learning</i> , ie any kind of learning activity which involves the use of web-enabled technology. The term is often used in other texts to equate with one-way provision of information and tasks for a learner, for example through provision of a CD-Rom including documents and learning objects. |
| emoticons | Small symbols or icons which are used in emails or messages to denote non-verbal emotions (happiness, anger etc). |
| HEI | Higher Education Institution |
| ICT | Information and Communication Technology |
| JISC | Joint Information and Systems Committee (UK) supporting education and research with ICTs http://www.jisc.ac.uk/ |
| Jorum | Repository of re-usable learning objects (e.g. activities for learning online which could be used in different courses or modules) for HE and FE teachers and support staff |

| | |
|------------------------|---|
| | http://www.jorum.ac.uk/ |
| LMS | Learning Management System. A <i>VLE</i> which includes potential for administrative tracking of objects viewed and tasks completed and which is linked to a learner enrolment system. |
| LTSN | Learning and Teaching Support Network (UK) source of research and collection of generic resources, divided into subject centres. This network is now absorbed into the Higher Education Academy http://www.heacademy.ac.uk/resources/ |
| MLE | Managed Learning Environment. Earlier term now usually replaced by <i>LMS</i> . |
| Online learning | Any kind of learning, planned and unplanned, which results from the use of web-enabled technology. In this thesis, online learning is generally used in a narrower sense, i.e. that learning which results from the use of web-enabled technology delivered through <i>Learning Management Systems</i> in Higher Education Institutions. The sphere of online learning outside such systems is vast, using more sophisticated technology than that currently available across HEIs. |
| OLE | Online learning environment – which can relate to a specific <i>VLE</i> , <i>MLE</i> or <i>LMS</i> (see above) or a more general reference to the use of web technology to support and facilitate learning through construction of a virtual space in which learning activities can take place. |
| QAA | Quality Assurance Agency for Higher Education http://www.qaa.ac.uk/ |
| RSS feeds | RSS stands for Really Simple Syndication. An RSS feed is a link which can be put into a webpage which will provide updated data from another source. For example, an RSS feed from someone's blog will ensure that new entries in that blog, although they exist elsewhere in the web, will be accessible on the reader's webpage. |
| SDLRS | Lucy Guglielmino's Self-Directed Learning Readiness Scale |
| Self-directed learning | Similar to self-managed learning or independent learning, where learners make independent choices about what, when, where and how learning activities take place and take responsibility for their own learning. Opposite of a dependent learning relationship where a teacher controls the sources and styles of learning. |

| | |
|------------------------|--|
| Synchronous discussion | Discussion conducted through the medium of a learning management system (<i>LMS</i>), where contributors (teachers and learners) must be online at the same time and can interact through keyboards and/or microphones, cameras, online whiteboard spaces etc. |
| Threaded discussion | “Threads” are separate sets of messages posted in a discussion forum which relate to one online conversation. A different conversation topic is usually started by posting a new thread. This allows some organisation of what might otherwise be a very confusing set of posted messages posted at different times by different people. |
| VLE | Virtual Learning Environment. A software package which enables registered learners, teachers and systems administrators to view and contribute to an online “environment” including a document storage facility, announcement facility, discussion fora, online assessment and other specific learning objects. May be publicly available software such as Moodle™ or privately sold software such as Blackboard™, WebCT™. |
| wiki | Editable website pages. May be moderated or controlled periodically but anyone online can delete or amend or add to a wiki. |

Self-directed learning force field



APPENDIX 3

INFORMATION SHEET ON RESEARCH STUDY BY SUE GREENER, CANDIDATE FOR EdD, FACULTY OF EDUCATION AND SPORT

Working Title of study:

Learner readiness for online learning in an HE context: to what extent is this a valid and useful idea?

Aim of investigation:

To explore and construct the concept of learner readiness for online learning in an HE context and to develop an instrument to assess learner readiness for online learning.

Supervisors:

Professor Tom Bourner and Professor Peter Kutnick

This study aims initially to explore the idea of varying learner readiness established in the literature and as perceived by HE teachers using MLEs, looking at variation in learners' skills, motivations, abilities, attitudes associated with learning using online resources.

The information gained in this study will be used to develop a construct of learners' readiness in HE in relation to online resource use and to develop and evaluate an instrument, such as a questionnaire, to build a learner profile. The aim of such a profile would be to offer formative feedback to learners and assist teachers to offer appropriate support for students in their use of online resources.

Interviews will be conducted with HE teachers (between 10 and 20 such interviews are anticipated) using online resources in their teaching, during which their views on learners' readiness will be explored. Transcripts will be produced from these interviews which will be subject to analysis in the spirit of Grounded Theory, in order to identify teachers' perspectives of learners' readiness and the factors which might affect such readiness. These outcomes will be analysed in the context of the published literature to determine a construct of learner readiness and its component factors, which could then be used as items in an instrument to profile learner readiness.

Interview subjects will be chosen to cover several subject disciplines and different HE institutions. This will not be to make the interview representative of the discipline or institution, but to extend the range beyond the researcher's own practice and institution.

Tapes and transcripts will be stored by the researcher at her home address away from the university and the content kept confidential. Transcripts will be sent to the subjects if wished, so that they can see what has been recorded and add further comments. Quotations from the transcripts may be made in the final thesis, but will be made unidentifiable. Quotations which clearly relate to a particular interviewee will not be used.

Interviews will last approx .30-45 minutes and will be unstructured, based around broad questions such as the following:

“What do you think about the idea of “readiness” for online learning?”

“What gets in the way of online learning for your students?”

“Why do some students seem more successful than others at learning with online resources?”

“What difficulties do the students have in blending their face-to-face learning with learning through online resources?”

“What kind of learning activities do you expect of your students when using online resources?”

Sue Greener
2005

APPENDIX 4
UNIVERSITY OF BRIGHTON

Written consent form to participate in research study by Sue Greener, candidate for EdD, Faculty of Education and Sport.

- I agree to take part in this research which is to **explore and construct the concept of learner readiness for online learning and to develop an instrument to assess individual learner readiness for online learning.**
- The experimenter has explained to my satisfaction the purpose of the experiment and the possible risks involved.
- I have had the principles and the procedure explained to me and I have also read the information sheet.
- I understand the principles and procedures fully.
- I am aware that I will be required to answer questions in an interview which will be recorded on tape for use in the research study only.
- I understand that any confidential information will be seen only by the researchers and will not be revealed to anyone else. Such confidential information will cover all information revealed in the interview. Tapes will be stored securely by the researcher at her home address away from the university and will not be available to anyone else without additional written consent from myself.
- A transcript of the interview will be produced by the researcher for the study. The transcript will be kept securely in confidence by the researcher at her home address. A copy will be sent to me if wished to allow me to add further comments. Transcripts will be confidential to myself and the researcher. Quotations from the transcripts will be made unidentifiable for use in the research study.
- I understand that I am free to withdraw from the investigation at any time.

Name (please print)

.....

Signed

.....

Date

.....
Witnessed (please print name)

.....

Signature of witness

.....

Date

.....

APPENDIX 5

Screenshot of one page from data showing referencing

week of the first term, we introduce them to Mintel when they come to that part on the curriculum. And they are going to need to use it so they can see the appropriateness and then it sticks. So I think that's important not throwing too much at them at once. But I'm talking about some of the on-line tutorials and things you come across, they are very, very instructional, they are almost like taking a book and putting it on-line and all you're doing is clicking to turn the pages, whereas the projects I've worked on we've tried to I think learning should be fun, students are used to now exploring games and they're getting more sophisticated and their expectation is more sophisticated I think than what we're offering. So when we did for example scene drawing, which is much under used and not widely disseminating but that's another issue. Good stuff doesn't get out there enough and people keep reinventing things instead of using what's already there. We tried to create it so that it was an adventure, there were things there that they could come across, they could create their own journeys through it and develop their own materials from it.

642/JG11/
pedo1

643/JG11/
stuo1

644/JG11/
pedo1

S.G. So it wasn't linear?

J.G. It wasn't linear. So you could say to the students, this is what I want you to do and here is something that will help you to find it. And they could explore their own way through this thing. We had it set up in an exhibition for a week in a demonstrative way and people kept coming back to have another go.

876/JG11/
leco1

S.G. Excellent

APPENDIX 6

Tables showing relationship of initial references from interview transcript analysis to their grouping into idea codes and subsequently into categories.

Table 1: Learner's Role categories

| Category and brief category description | Idea codes within this category (reference codes used in transcripts) | Number of transcripts showing this idea code (total transcripts = 10) | Number of references in this idea code | Total data references in this category |
|--|---|---|--|--|
| 1. Academic skills: Skills associated with learning in HE including writing for academic purposes | Academic confidence (Aca01) | 1 | 3 | 6 |
| | Competence not enough (Com01) | 3 | 3 | |
| 2. Connectedness: Technology providing connections with people and resources for learners | Collaboration online (Col01) | 3 | 4 | 10 |
| | Dialogue (Dia01) | 4 | 6 | |
| 3. Continuing community: Support, connection and community to balance the potential isolation of online learning | Communities of practice (Cop01) | 6 | 10 | 33 |
| | Confidence of learner (Con01) | 2 | 3 | |
| | Sociological factors in learning (Soc01) | 7 | 19 | |
| | Social confidence (Soc02) | 1 | 1 | |
| 4. Determination: Trait or attitude associated with successful online exploration, discussion and contribution | Determination or lack of it (Det01) | 3 | 4 | 5 |
| | Dealing with online learning (Dea01) | 1 | 1 | |
| 5. Emotional response: Learners' emotional response to computers and online environment for learning | Exciting and sexy (Exc01) | 7 | 10 | 58 |
| | Emotion (Emo01) | 2 | 6 | |
| | Technology attitude to access (Tec01) | 8 | 21 | |
| | Fear in learning (Fea01) | 7 | 15 | |
| | Isolation of individuals online (Iso01) | 4 | 6 | |
| 6. Personal learners' differences: Curiosity, maturity and visual learning preferences rather than styles, gender or age | Visual auditory kinaesthetic (Vak01) | 2 | 2 | 38 |
| | Variation of student approach (Var01) | 4 | 16 | |
| | Gender effects (Gen01) | 3 | 5 | |

| Category and brief category description | Idea codes within this category (reference codes used in transcripts) | Number of transcripts showing this idea code (total transcripts = 10) | Number of references in this idea code | Total data references in this category |
|---|--|--|---|---|
| | Styles of learning (Sty01) | 4 | 7 | |
| | Nerd type psychology (Ner01) | 1 | 1 | |
| | Personality traits (Per02) | 3 | 7 | |
| 7. Motivation: Motivation considered a key factor in student readiness for online learning but variations in definition | Motivation of students (Mot01) | 7 | 13 | 13 |
| 8. Learners' role: Proactive role required for successful online learning | Learning control (Lea01) | 5 | 6 | 42 |
| | Teachers' expectations of learner (Tea03) | 4 | 10 | |
| | Students' expectation of learning (Stu01) | 7 | 17 | |
| | University or HE value (Uni01) | 4 | 9 | |
| 9. Preparation for online learning: Nature of preparation for online learning going beyond ICT competence | Schools push towards online learning (Sch01) | 1 | 1 | 102 |
| | Prior learning experience (Pri01) | 7 | 15 | |
| | Induction issues (Ind01) | 9 | 38 | |
| | Technological competence (Tec02) | 8 | 18 | |
| | Readiness definitions (Rea01) | 9 | 30 | |
| 10. Self-efficacy: Confidence, competence and comfort affecting students' approaches to online learning | Self-efficacy (Sef01) | 1 | 2 | 42 |
| | Learned helplessness (Hel01) | 1 | 2 | |
| | Confidence of learner (Con03) | 6 | 11 | |
| | Self-directed learning (Sdl01) | 6 | 19 | |
| | Pass or strategic motivation (Mot02) | 2 | 2 | |
| | Insecurity in online learning (Ins02) | 1 | 1 | |
| | Age effect online (Age01) | 3 | 5 | |

Table 2: Teacher's Role categories

| Category and brief category description | Idea codes within this category (reference codes used in transcripts) | Transcripts showing this idea code (total transcripts = 10) | Numbers of references in this idea code | Total data references in this category |
|---|---|---|---|--|
| 11. Balance effect: Balancing of the learning opportunities for different learner needs (online & face-to-face) | Equalization effect online/face-to-face (Equ01) | 1 | 2 | 2 |
| 12. Disincentives to online learning: Factors deterring learners online | Extra work to go online (Ext01) | 4 | 6 | 25 |
| | Size of group online (Siz01) | 3 | 3 | |
| | Quality of content online (Qua01) | 6 | 16 | |
| 13. HE levels: Academic judgement of appropriate levels of material and activity open to wider scrutiny online | Not really HE level (Not01) | 2 | 2 | 2 |
| 14. Institutional readiness: Implications of institutional adoption of VLEs | Institutional agenda (Ins03) | 2 | 4 | 41 |
| | Online development costs (OII03) | 4 | 7 | |
| | Institutional readiness for online learning (Ins01) | 9 | 30 | |
| 15. Online activities: Teachers' expectations of relevant activities for learning in online environments | Relevance to learner (Rel01) | 3 | 4 | 66 |
| | Online learning descriptions (OII01) | 10 | 62 | |
| 16. Teachers' pedagogy: Teachers' views of learning (pedagogy and philosophy) differ and this affects online learning design | Additions to f2f learning (Add01) | 2 | 7 | 110 |
| | Assessment online (Ass01) | 6 | 11 | |
| | Incentives to go online (Inc01) | 2 | 4 | |
| | Personal help from tutor (Hel02) | 3 | 4 | |
| | Pedagogy of teacher (Ped01) | 10 | 64 | |
| | Blend of f2f and online (Ble01) | 8 | 20 | |
| 17. Teacher's role: Notion that teachers' role must change to take advantage of or keep pace with changes in use of technology in HE learning | Teacher's role (Tea02) | 10 | 31 | 109 |
| | Teachers' learning (Tea05) | 5 | 9 | |
| | Recognition of achievement (Rec02) | 1 | 1 | |

| Category and brief category description | Idea codes within this category (reference codes used in transcripts) | Transcripts showing this idea code (total transcripts = 10) | Numbers of references in this idea code | Total data references in this category |
|---|---|---|---|--|
| | Teachers' support e.g. technologist (Tea06) | 5 | 10 | |
| | Validity of learning online (Val01) | 1 | 4 | |
| | Legitimation (Leg01) | 4 | 6 | |
| | Progressive i.e. controlled learning (Pro01) | 4 | 6 | |
| | Tutors' readiness (Tut01) | 6 | 13 | |
| | Teachers' control (Tea01) | 9 | 18 | |
| | Teachers' workload (Tea04) | 6 | 11 | |

Table 3: Online Experience categories

| Category and brief description | Idea codes within this category (reference codes in transcripts) | Transcripts showing this idea code (total transcripts = 10) | Numbers of references in this idea code | Total data references in this category |
|---|--|---|---|--|
| 18. Major and necessary change: Introduction of VLEs in HE as trigger to review of pedagogy | Trend in IT (Tre01) | 6 | 16 | 17 |
| | Work experience re online learning pull (Wor01) | 1 | 1 | |
| 19. Idea space: Space for ideas to emerge in discussion whether face-to-face or online | Duplication of ideas online less acceptable (Dup01) | 2 | 2 | 2 |
| 20. Online outcomes: Notable differences identified in outcomes from online learning compared with face-to-face | Online learning outcomes (Out01) | 8 | 22 | 22 |
| 21. Online reality: The way in which VLEs can be used which differs from face-to-face teaching reality | Modularization online (Mod01) | 1 | 1 | 51 |
| | Distance in learning (Dis02) | 2 | 3 | |
| | Interaction online (Int01) | 5 | 12 | |
| | Difference online and f2f (Dif01) | 8 | 26 | |
| | Online learning definitions (Oll02) | 3 | 4 | |

| Category and brief description | Idea codes within this category (reference codes in transcripts) | Transcripts showing this idea code (total transcripts = 10) | Numbers of references in this idea code | Total data references in this category |
|---|--|---|---|--|
| | Record of discussion (Rec01) | 1 | 2 | |
| | Reaction to content online (Rea02) | 3 | 3 | |
| 22. Online plasticity: The plasticity or flexibility of the online environment to accommodate difference in learning approach, need and discipline | Parallel online and f2f (Par02) | 4 | 7 | 37 |
| | Context of learning (Con02) | 4 | 6 | |
| | Targeted to syllabus – online benefit (Tar01) | 1 | 1 | |
| | Online environment not tool (Env01) | 5 | 10 | |
| | Safety of online backup (Saf01) | 1 | 3 | |
| | Choice for learners (Cho01) | 5 | 5 | |
| | Online learning just as tool (Too01) | 5 | 5 | |
| 23. Personalisation: Perceived advantage of online teaching was the capability for personally communicating with students to a greater degree | Targeting individual students online (Tar02) | 5 | 9 | 12 |
| | Personalized nature of face-to-face (Per01) | 3 | 3 | |
| 24. Time space: The time flexibility afforded by most online learning can bring a variety of benefits to learners in HE provided IT access issues can be overcome | Technology access (Tec01) | 8 | 21 | 48 |
| | English as second language (Esl01) | 5 | 5 | |
| | Time management online (Tim01) | 8 | 11 | |
| | Disability in learning understanding (Dis01) | 2 | 2 | |
| | Reflection in online learning (Ref01) | 1 | 3 | |
| | Part-time and non-traditional students (Par01) | 3 | 6 | |
| 25. Virtual status: Learners and teachers can attain a different status online from that in the classroom | Extravert introvert (Ext02) | 4 | 8 | 8 |

APPENDIX 7

Example of students' induction for online learning in a "blended" (face-to-face and online supported) programme

The following example shows a six stage approach to supporting students into an online learning environment. Each stage and its contents are based on the study of HE teachers' perspectives of factors affecting readiness for online learning. The key assumptions made for this example are that:

1. students have not used LMSs or VLEs before for the purposes of Higher Education study,
2. a standard LMS software package such as Blackboard, WebCT or Moodle is used,
3. online learning is one element of the learning and teaching strategy (ie the course is not fully online),
4. all teachers involved in delivering a specific course or module to students have checked that the skills and knowledge contained do in fact relate to the delivery mode and expected online activities proposed,
5. the students' subject domain will provide further opportunities for tailoring the induction and activities online to specific study needs and
6. the students' course or module will afford sufficient time to conduct the stages sequentially over a period of time, rather than trying to deliver all information in one day.

It is desirable to present this induction in such a way that students can choose to re-order or take time over the activities in Stage 4.

The aim of this induction is to familiarise HE students who are new to online learning, including computer-mediated conferencing, with the benefits, tools and techniques, constraints and opportunities for learning available through their LMS. Critical evaluation of each stage should result in a cycle of actions to improve relevance and value to students.

| Induction stage | Activity | Mode of delivery | Materials and content | Students' learning outcomes. By the end of this stage, students should be able to: |
|-----------------|--|--|---|--|
| 1 | Introduction of LMS and online learning at students' induction | PowerPoint or similar for presentation | Presentation to include: 1. Benefits and relevance of online learning in relation to | 1. Articulate the relevance of online learning in relation to their course and subject |

| Induction stage | Activity | Mode of delivery | Materials and content | Students' learning outcomes. By the end of this stage, students should be able to: |
|-----------------|----------|--|---|---|
| | | <p>and demonstration.</p> <p>Online access desirable but not essential.</p> <p>Handout of slides or key points to be available to students during the presentation and to take away.</p> | <p>the students' course and subject domain</p> <ol style="list-style-type: none"> 2. Tour of the online learning environment (LMS). This can be done live or constructed from screenshots with explanation 3. Key differences between online and face-to-face learning e.g. role of teacher as designer, facilitator and provider of materials and constructive feedback, active role for students in searching, analysing, sharing and supporting others in collaborative learning, textual basis for most information and communication so lack of social and emotional cues, easier for less extrovert learners to make full online contributions, strategy for screen-reading or printing, how time gaps in asynchronous CMC can promote reflection 4. Who can see what online (e.g. | <ol style="list-style-type: none"> 2. Articulate the key differences between online and face-to-face learning 3. Recognise the main features of the LMS in use 4. Achieve a basic understanding of the types of information and activity involved in the LMS |

| Induction stage | Activity | Mode of delivery | Materials and content | Students' learning outcomes. By the end of this stage, students should be able to: |
|-----------------|---|--|--|--|
| | | | <p>what can teachers see) and when will they find it available</p> <p>5. Who to ask about access problems</p> | |
| 2 | Timetabled hands-on activity in computer room(s). Ideally in students' first session after induction. | Online access Supported by task sheet | <p>Students work at their own pace through the task sheet. Can leave when completed or stay to help others.</p> <p>Teachers (and preferably learning technologists) should be available for one-to-one questions.</p> <p>Task sheet written with user-friendly instructions, including where possible screen-shots and icons to aid recognition of items on screen. Includes:</p> <ol style="list-style-type: none"> 1. Access instructions 2. Navigation instructions 3. Navigation task where more than one module/course area is used, to visit each relevant area 4. Navigation task to find the initial PowerPoint file used in Stage 1 for later reference | <ol style="list-style-type: none"> 1. Resolve remaining personal access issues at early stage 2. Experience first posting in discussion forum 3. Gain practical experience of navigating the LMS 4. Get direct answers to questions through face-to-face interaction with teachers and students about using the LMS 5. Contribute to overview of cohort ICT access and experience |

| Induction stage | Activity | Mode of delivery | Materials and content | Students' learning outcomes. By the end of this stage, students should be able to: |
|-----------------|---|--|--|--|
| | | | <ol style="list-style-type: none"> 5. A discussion forum task – for example to post a brief personal introduction and learning objective for the course – and respond briefly to at least one other posting 6. Online survey completion – to answer questions on personal home/work web access and levels of competence in key ICT tasks e.g. forwarding and attaching documents to email, moving quickly through documents with shortcuts, using find/search commands & hyperlinks in documents and on screen, finding specific URLs, using search engines, impact of pop-ups filter, back-up frequency and media, using online help. | |
| 3 | Publish/circulate online survey results to all students as soon as possible | Via email and/or hard copy, plus reference copy in LMS | Charts and graphics of results | <ol style="list-style-type: none"> 1. Understand the speed and value of online surveys 2. Understand & develop perspective on their personal position in the cohort and the range of |

| Induction stage | Activity | Mode of delivery | Materials and content | Students' learning outcomes. By the end of this stage, students should be able to: |
|-----------------|-------------------|--|---|---|
| | | | | positions on access and competences. |
| 4. | Skills session(s) | <p>This may be a day's face-to-face workshop or a series of streamed video or audio lectures online, a workbook or other media online.</p> <p>It should be possible for students to skip sessions where they feel confident or have prior experience by completing an online test and reaching a minimum pass threshold.</p> | <p>Separate skills sessions in:</p> <ol style="list-style-type: none"> a. Web searching and evaluation of online information sources, including research skills, search terms, referencing online sites and evaluating source reliability. b. Web searching for academic and professional journal articles (including using academic portals and databases, using abstracts and references for refined searches) c. Critical analysis of literature sources using key questions to produce article summaries (including purpose, target audience, quality of | <p>Achieve an acceptable standard of competence in the following behaviours:</p> <ol style="list-style-type: none"> a. Web searching and evaluation of online information sources b. Web searching for academic and professional journal articles c. Critical analysis of literature sources using key questions to produce article summaries d. Management of web-sourced resources e. Academic writing online in discussion forums, blogs, wikis, journals f. Identifying plagiarism and understanding how to prevent it, including Harvard referencing system g. Collaborative learning online including setting appropriate ground rules |

| Induction stage | Activity | Mode of delivery | Materials and content | Students' learning outcomes. By the end of this stage, students should be able to: |
|-----------------|----------|---|--|--|
| | | <p>It should also be possible for students to study the elements in any order if made available online to allow more control over their learning. And for teachers to introduce some skills sessions at a later stage just before required on course.</p> | <p>message communicated and evidenced)</p> <ul style="list-style-type: none"> d. Management of web-sourced resources (including storage and retrieval of bibliographic references and notes, inclusion with course notes) e. Academic writing online in discussion forums, blogs, wikis, journals (including acceptable text language, grammar, editing, starting new threads, maintaining online conversations, responding by quoting or direct reference, précis/summarising) f. Identifying plagiarism and understanding how to prevent it, (including Harvard referencing system) | <ul style="list-style-type: none"> for synchronous and asynchronous communication h. Self-directed learning and time management of online learning i. Personalising virtual space |

| Induction stage | Activity | Mode of delivery | Materials and content | Students' learning outcomes. By the end of this stage, students should be able to: |
|-----------------|-----------------------------|--------------------------|---|---|
| | | | <ul style="list-style-type: none"> g. Collaborative learning online (including setting appropriate ground rules for synchronous and asynchronous communication, group process management) h. Self-directed learning and time management of online learning (including objective setting for resource search, reading, responsibility for planning and evaluation of learning) i. Personalising virtual space (including blogs, resource collections, social networks, relevance to CPD and time management as well as convenience and personal motivation) | |
| 5 | Use of OLE in the classroom | Face-to-face with online | <ul style="list-style-type: none"> • Provide timely reminders of activities and resources | 1. Continue to develop awareness of opportunities |

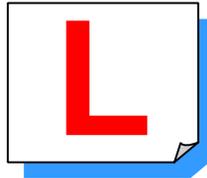
| Induction stage | Activity | Mode of delivery | Materials and content | Students' learning outcomes. By the end of this stage, students should be able to: |
|-----------------|----------|---|---|--|
| | | <p>access</p> <p>Regular updating and changing of announcements and content to produce dynamic within course/module areas</p> | <p>available in the LMS</p> <ul style="list-style-type: none"> • Demonstrate uses and benefits of the LMS by role-modelling as learner in class e.g. for websearch and navigation to answer class-generated queries • Maintain levels of enthusiasm for learning opportunities generated by the LMS, in particular giving supportive legitimation to class participants' online contributions. • Use live webcams (e.g. parliamentary debates on relevant topics, webinars run by other educational institutions, links with other online learners) and pre-recorded streamed video (e.g. interviews with experts, case studies of course-relevant issues) in sessions to widen resource availability in the classroom | <p>for learning through online resources</p> <ol style="list-style-type: none"> 2. Be creative and self-directed about choices of learning activities in relation to personal learning objectives |

| Induction stage | Activity | Mode of delivery | Materials and content | Students' learning outcomes. By the end of this stage, students should be able to: |
|-----------------|---|---|--|---|
| 6 | Monitor and evaluate skills development and students' experience of LMS | Online survey and/or face-to-face survey plus personal feedback | <ul style="list-style-type: none"> • Track attendance, especially in early period of course/module, and follow up face-to-face or by email with those not attending online as requested. • Moderate Discussion Forums (course relevant and social forums) to scaffold and develop collaborative learning and remain in touch with potential problems for fast response. Moderation visit frequency should be committed and acted upon visibly to the student group. • Encourage Discussion Forum, wiki, journal, FAQ and glossary contributions to produce personal tips, useful additional URLs, strategies and evaluations of learning online, which can be shared student-student. • Conduct mid-term and end of term surveys of usage and students' experience, to seek actively for improvements both | <ol style="list-style-type: none"> 1. Contribute to ongoing improvement of students' experience of LMS and the way it is used 2. Develop a sense of how other learners use online resources for learning 3. Continue to develop academic skills for online learning 4. Support other learners by sharing experience and skills and strategies for online learning |

| Induction stage | Activity | Mode of delivery | Materials and content | Students' learning outcomes. By the end of this stage, students should be able to: |
|------------------------|-----------------|-------------------------|---|---|
| | | | within study programmes and for subsequent cohorts. | |

Tips for online teaching and learning

From a Learner Teacher



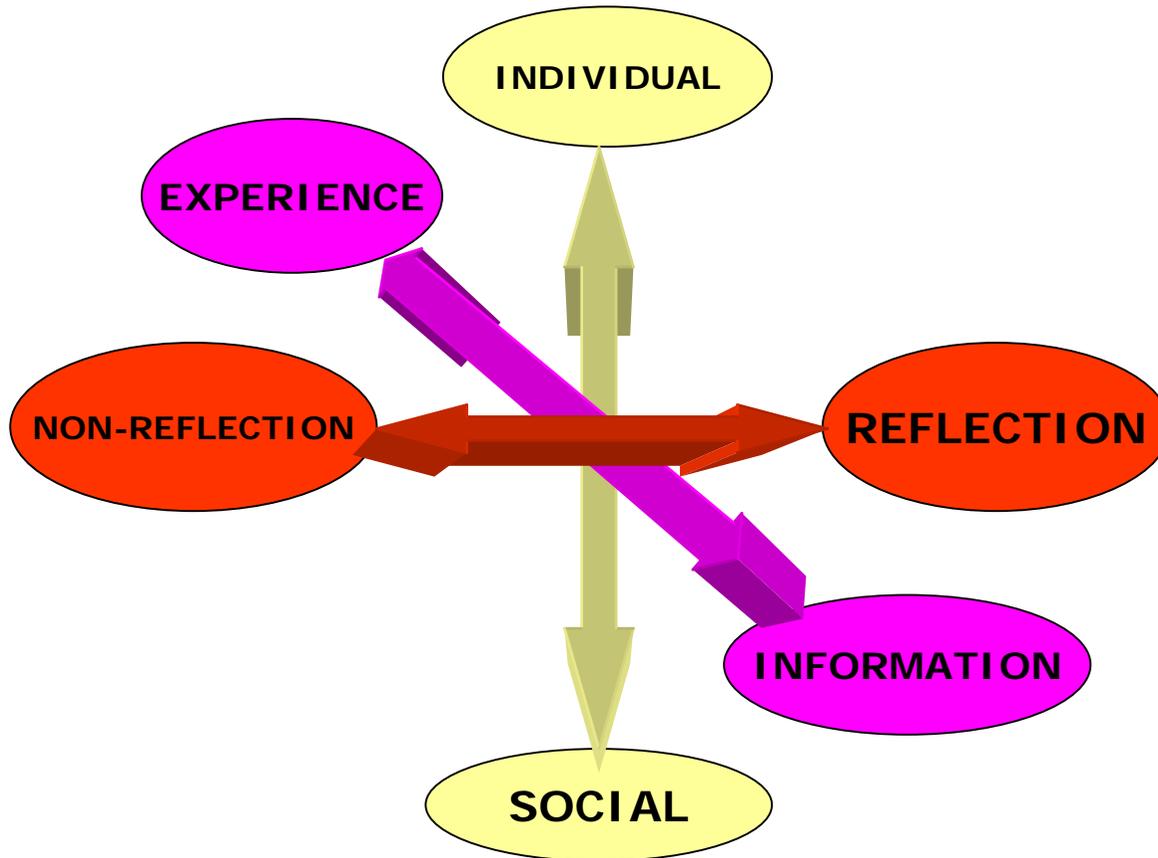
Sue Greener BA MBA FHEA FCIPD

- **Good teaching?**
- **The issue of control**
- **The Salmon model of e-moderation**
- **Practical tips**
- **Changing role for teachers**
- **Summary so far**
- **References and further reading**

Contents

- **No-one has the right to tell a teacher how to teach**
- **Sometimes I wish they did, it might have helped me**
- **But what makes for good teaching?**
 - **An understanding of pedagogic principle?**
 - **A range of teaching activities and practical ideas to draw from?**
 - **The determination to learn from experience and listen openly to what learners and education researchers are telling us?**

Good teaching?



- If pedagogy is about enhancing learning, then this model from Conole et al helps us look at the differing dimensions of learning theories

- They all fit into this 3 dimensional grid, being more or less to do with individual action or social action, more or less learning from information or from experience and more or less involving personal reflective thinking

- Online learning has been described as offering a more active role for the individual learner (than sitting in class), more opportunity for conscious reflection, more “constructivist” in nature ie involving the learner in constructing their understanding of meaning.

- Poor online environments provide only information on screen to look at – no activities, interaction with the learner, formative feedback or connection with other learners – this might be called a pure “distance” model of teaching – here’s the stuff, learn it and do an exam”

Conole et al (2004) pedagogy as learning theory

1. **Maximising contact between student and faculty**
2. **Emphasizing time on task, good time management**
3. **Reciprocity and co-operation among students**
4. **Prompt feedback**
5. **Active learning – relate to past experiences and apply to daily lives**
6. **High expectations from teacher**
7. **Respect for diverse talents and ways of learning**

Chickering and Gamson came up with 7 principles for good practice in undergraduate education (1987)

| Mehanna’s achievement enhancing behaviours | Chickering and Gamson’s 7 principles for good practice in undergraduate education |
|---|--|
| Summarizing and note-taking | |
| Reinforcing effort and providing recognition | Maximising contact between student and faculty |
| Homework and practice | Emphasizing time on task, good time management |
| Non-linguistic presentation | |
| Co-operative learning | Reciprocity and co-operation among students |
| Setting goals and providing feedback | Prompt feedback |
| Generating and testing hypotheses | Active learning – relate to past experiences and apply to daily lives |
| | High expectations from teacher |
| | Respect for diverse talents and ways of learning |

Mehanna (2004) wrote in the context of e-learning about “achievement-enhancing behaviours”

1. **Encourage learners to summarise and take notes, not just play the video or click through screens**
2. **Maximise contact (teacher-student and student-student) especially to provide constructive recognition of their efforts**
3. **Clarify what private study they need to do and the time it will take, encourage them to plan time**
4. **Use visual graphics (charts, icons, pictures, slides, video) and audio to support plain text whenever possible**
5. **Stimulate co-operative learning both with the teacher and among student group (reading and responding to others' online posts, working together where possible)**
6. **Set goals and provide prompt and constructive feedback (largely teacher generated)**
7. **Make opportunities for learners to apply ideas to their own reality, test hypotheses, find and share relevant examples**
8. **Expect high standards, while scaffolding ways to achieve them**
9. **Anticipate and respect diverse ways of learning and learning needs**

So together they give us some well-researched and practical tips for online teaching

- “One of the most fundamental issues in education is the level of control available to the learner” (Dron 2006)
- It is easy to let Learning Management Systems (LMS) provide masses of structure from teachers and /or technologists and exclude meaningful dialogue with the learner
- Online environments give us the chance to give more control to learners to fit their evolving world
- If we want learners to self-direct and take responsibility for their learning, we have to give them the opportunity, even in HE courses

Frans van Meurs gives us a snapshot of the student perspective of online learning in the Information-Age Mindset (2000).

1. computers aren't technology just part of life,
2. internet better than TV,
3. reality no longer real,
4. doing rather than knowing,
5. nintendo over logic (trial and error),
6. multitasking as a way of life,
7. typing rather than handwriting,
8. staying connected,
9. zero tolerance for delays (24x7 culture),
10. consumer/creator blurring e.g. wikis - who owns information?

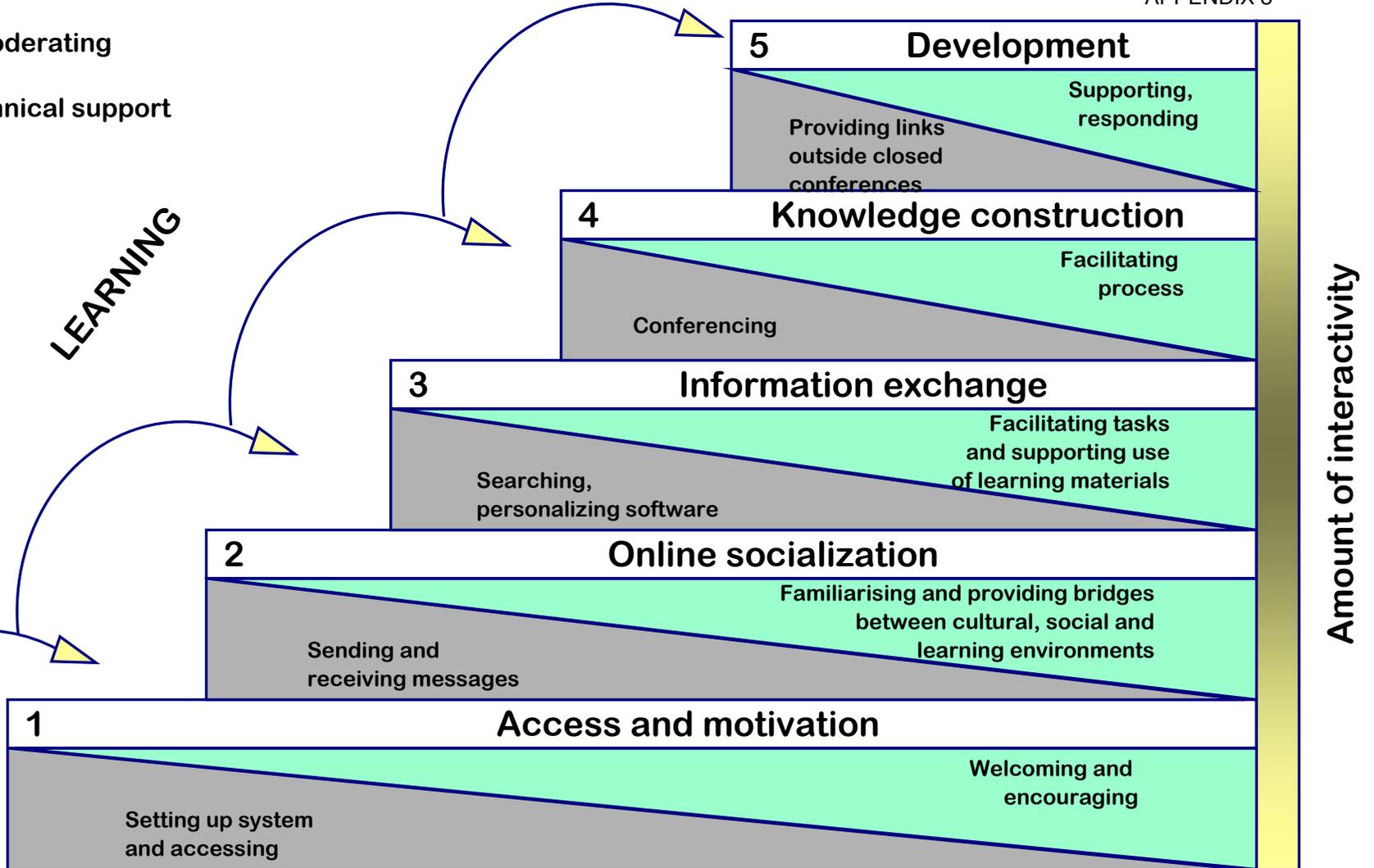
The issue of control

- **Salmon has written some seminal books about working with online learners**
- **She believes online teachers need to engage with people not machines**
- **She supports the idea that lecturers have to relax a little of their traditional control to make this work**
- **She stresses the need for inspiring online teachers with the following abilities and skills:**
 - **to learn online communication and e-moderating skills,**
 - **to promote appropriate use of own and participants' time online,**
 - **to provide support and counselling online**
 - **to design and adapt conferencing for differing purposes, participants needs and conference dynamics,**
 - **to conference cross culturally and value diversity,**
 - **to demonstrate flexibility in online assessment and evaluation,**
 - **to appreciate benefits of online working and act as resource guide and monitor,**
 - **Overall need a personal meta-cognitive and adaptable approach to learning, ability to reflect and input into how the online course can support learning**

Gilly Salmon's experience at OU (UK)

- E-Moderating
- Technical support

LEARNING



Salmon model of teaching and learning online through CMC (2000)

- **TIP 1.** What does running an online module require of an academic?

Academic staff should:

- Have a clear idea of what they are using the module area for and what they require students to achieve online
- Devote some CPD time to online tools to explore their uses & potential
- Find people with expertise or experience to help them
- Decide which, if any, online activities will help to achieve the aim
- Plan ahead
- Schedule some extra time at the outset to set up the “site” and encourage take-up
- Plan online activities to support and stimulate learning
- Commit to being there regularly, when students expect them
- Be aware of diversity and difference in learning need (especially screen-reading)

- **TIP 2.** What do you need to think about when designing an online module environment?

- **Clarity of purpose:** what is the role of the environment in relation to your module? Is it a learning tool or a support site? I.e. is the site simply for materials as a back-up storage device, or is it designed to develop and add value to the learning opportunities of the students?
- **Visit frequency:** how often would you like students to visit the site?
- **Dynamics:** how will you keep the area fresh and worth visiting again?
- **Student familiarity with online environment:** if new, how will you prepare them for the skills and habits needed? Will this module differ from others in their experience?
- **Ground rules:** basics of behaviour online? How will you get these agreed?
- **Content:** what types of material or information will suit your purpose online (e.g. how much administrative information, tutorial notes, additional reading material, quizzes, relevant website links, assessment details and so on)?

Some tips

(based on Greener (2003))

- **“The agenda for using learning technology or e-Learning in HE is no longer a simple matter of disseminating new tools to teachers. Learning technology is set to change both the prevailing teaching paradigm and the academic role as well as helping to address other national drivers such as widening participation, increased student numbers and accessibility”
JISC study in UK 2001-02**
- **My recent research, supported in the literature, is showing a changing sense of status and role for online teachers in relation to learners.**
- **We are there to design, support, scaffold and legitimate learning, not own it or define it – the community of learners will do that**

Changing roles for teachers

- **Affective** – remember emotional support & confidence building
- **Dialogic** – responding to students’ needs
- **Focusing** – bringing study to the fore
- **Reflective and flexible** – allowing time for developing understanding
- **Timely and relevant**
- **Reversionable** between individual and group
- **Accessible** – when we say we are

Consider Macdonald’s “qualities of intervention” in online discussion forums (2006)

- **Clear aim for the online resources in your module teaching**
- **Plan dynamic module areas**
- **Share your plans and enthusiasm with students**
- **Check readability guidelines**
- **Keep it simple and signpost what to do when**
- **Develop good learner support – review good teaching principles**
- **Schedule and keep to your regular visits to the Discussion Forum – use the moderation model & best practice**
- **Use the experts (technologists, researchers, experienced teachers) – they are there to help problem solve**
- **Evaluate your use of the online site after the semester to make improvements**

Planning and doing effective online teaching: summary so far



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References and further reading

Appendix 9

Paper given at EISTA 06, Florida, US July 2006

Self-aware and Self-directed: Student Conceptions of Blended Learning

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ABSTRACT

This paper reports on an investigation into student conceptions of “blended learning” in the light of their experience of an HE Masters level module at a British university. The small scale study used a qualitative method to discover in the students’ words a range of conceptions relating to this learning experience. The students’ conceptions were related to the stage of study and an analysis of motivations for learning in this context. The study identified a new dimension of learning motivation with practical implications for attempting to blend traditional face-to-face teaching methods with on-line support and study options.

Keywords: Blended learning, Higher Education, Motivation, Learning approaches.

BACKGROUND

E-learning activities and on-line learning environments are increasingly widespread in Higher Education, not for distance learning purposes, but for integration with full and part time university courses. This faces HE teachers with many practical questions about how learning and teaching should be approached, as well as the broader questions of the meaning and practice of learning and teaching in the twenty-first century. University teaching has traditionally been based on considerable interaction between learner and teacher and among and between learners in seminars and tutorials. This learning approach does not fit well with the web-based training instruction model and suggests that HEIs should look to the idea of supported on-line learning when introducing on-line technologies into the blend.

Supported on-line learning is learner and process focussed and requires much student-student and student-tutor interaction. According to a report commissioned by the UK Chartered Institute of Personnel and Development:

“Supported on-line learning involves significant interaction between the learner and other learners as well as the tutor. Typically this will include synchronous or asynchronous conferencing, small group learning and,

possibly, face-to-face support in addition to on-line access to materials and information.” [1].

In exploring how to support on-line learning, it seemed sensible to ask students about their experience of blending this experience with face-to-face teaching at a time when most of their teaching was in traditional mode and the blend with on-line activities was a fresh approach. It was important to find out how the on-line activities in the blend would affect their motivation to learn, in order to decide how best to offer appropriate feedback and support through the design of the on-line learning space. There is a clear view in the literature that motivations for learning are not permanent individual traits but dynamic aspects of student intentions in relation to specific tasks in specific circumstances. This is built on constructivist foundations, where students do not simply take in and store information, but go on to make tentative interpretations of experience, and test out those interpretations [2-4].

Race’s model of learning was similar to that of Kolb but added the key idea of wanting and/or needing to learn as a central drive throughout the learning process, suggesting that if the want or need receded, the learning was likely to do the same. Such ideas imply a central role of motivation in the learning process, suggesting that an understanding of student motivation should allow more tailored and appropriate support and intervention through the learning and teaching strategy.

These ideas moulded the development of the postgraduate module on which this study was based. The conceptions of blended learning identified through student interviews, reflect their experience of such group processes and on-line tools intended to encourage deep, or at least strategic, learning.

METHODOLOGY

A small-scale study was proposed which reflected the still experimental nature of the blended mode in HE provision, leading to business students electing to take traditional modes over blended modes on the basis of a “devil they knew”. Seven students, who had just

completed a postgraduate study module delivered by a blend of on-line and face-to-face teaching and activities, were interviewed and verbatim interview transcripts were analysed in detail. The research study did not attempt to fix ideas about blended learning itself, but to identify possible student conceptions of the pedagogic tools. Semi-structured interview questions triggered discussions of feelings and experiences of the blended mode. They also related first to students' retrospective early views of the blended mode, and encouraged students to discuss to what extent these remained constant throughout the module to the period of the interview post-course. This was a qualitative method based on phenomenology to uncover conceptions from the data, which were not confined to discussing how an individual student perceived learning, but how the blend of on-line and face-to-face learning was perceived.

I define conception as a mental construct formed by combining all relating experiences, impressions and notions. By interviewing students after the module was completed, I hoped to find stable conceptions, which were unlikely to be affected in their expression by any tutor assessment power. The study was influenced by a constructivist perspective [2; 5], where students had experienced a new method of learning and could be expected to become actively engaged in trying to make sense of the method.

Following several trawls through the data to identify ideas associated with blended learning, these ideas were developed and grouped into conceptions, then tested against three externally quoted frameworks found in the literature, the first of these being student learning approaches based on Marton's work on deep and surface learning approaches [6] and extended by Entwistle [Table 1.1 p 19 7] to include strategic approaches. The Deep approach here embodies the students' intention to understand ideas for themselves ("transforming"). The Surface approach embodies the students' intention to cope with course requirements ("reproducing"). The Strategic approach embodies the students' intention to achieve the highest possible grades ("organising").

The second framework applied to the data in the study described types of motivation derived from Entwistle [8]. The conception themes derived from the study were explored for association with type of motivation. Entwistle distinguished between:

1. Competence motivation – a search for successful learning experiences
2. Extrinsic motivation – a search for qualifications or good grades
3. Intrinsic motivation – a search for subject knowledge and understanding
4. Achievement motivation – a search for improved self esteem through achievement

To these positive descriptions he adds the fear of failure, a negative, which is most often seen as the downside of extrinsic motivation.

One of the ideas emerging directly from the data was the clustering of certain conceptions around the initial stage of the module and the changing conceptions as learning progressed. I therefore also compared the data to ideas of learning stages [9; 10]

FINDINGS

The interview transcripts yielded a total of 69 initial ideas, all of which could be considered discrete. These ideas were then grouped into nine conceptions or themes relating to students' conceptions about blended learning.

1. *Blended learning is a positive conception* (varied advantages relating to the blended teaching and learning approach such as working at student's own pace, this mode being seen as representing progress in learning, the new and different appeal of the technology and mix, access to the web while on-line for regular scheduled activity)
2. *Blended learning involves barriers* (largely technology issues which caused students difficulty such as technology problems, unfamiliarity with the technology, potential isolation during on-line weeks, lack of user friendliness, possible cost issues regarding internet connection time if from home computer)
3. *Blended learning involves competence* (conceptions of both worry and pleasure over difficulty or challenge of the blended mode, its different approach from traditional learning methods and whether it seemed to work or not)
4. *Blended learning requires confidence* (expressions of need for comfort and confidence in learning, choosing familiar ground, being prepared to be open in posting messages on-line, working together in a safe and supported situation with both face-to-face and on-line support)
5. *Blended learning is particularly good for certain subjects* (this is a small but different conception relating to whether blended learning approaches are context dependent)
6. *Blended learning needs a learning community* (considerable references to the need for commitment to the method to support the group's learning, the fact that students in this

mode were more interdependent for their learning, requirement for interaction in learning whether face-to-face or on-line, expressions of regret that insufficient interaction or commitment had been evident, social benefit and team belonging, references to the group behaving like a learning set)

7. *Blended learning success depends on the personal learning approach* (the largest group of references related to personal choice and preference being more enabled with blended learning, the freedom to make time and quality decisions about learning, how much to do, whether a lazy personal approach was made easier to sustain through blended learning, ideas of enjoyment, self-discipline, suiting personal learning style – reflector or activist in particular)
8. *Blended learning requires self-direction* (this group of categories showed evidence of a clear awareness of the need for self-directed learning with the blended approach, not always achieved in which case there was an expressed need for something to make people take part – force or compulsion to make the effort, sustained by stimulation and interest through method and content or a strong commitment to finding their own way to meaningful understanding).
9. *Blended learning requires a particular tutor role and structure* (this conception referred to a strongly expressed view that small groups were an important part of effective blended learning, that rules, whether imposed by the tutor or the student team, were essential and that ongoing support from the tutor and perhaps others was part of the added value of the experience of blended learning.)

There is a broadly similar profile between the number of idea categories and number of references to that category in each conception, but relatively many more references to personal learning approach, tutor role / structure, learning community and self-direction.

Variations in stage at which conceptions arise

Specific categories were seen to relate to different stages of the learning within the module. Each category was placed alongside a stage on the basis of the context as well as the content of the category. While the stages were allocated subjectively, the context of the references helped to validate the choice. Figure 2 below gives a clear picture of the predominance of conceptions relating to the early stage, during which students are coming to terms with a new method of teaching and learning. Early stage categories centred around technology difficulties, concerns over personal competence and

confidence, tutor role and support and structure provided by the tutor, including references to a teaching model, also a conception of being different and special, undertaking risk. Categories related to a final stage of learning (based on transcript context and position) included regret in hindsight at not using opportunities recognised in blended learning, a view that this (blended learning) was the future of learning, unexpected benefits and recognition of wider learning arising from the blended approach, an awareness of growth and personal development through self direction). Categories arising throughout the stages included ideas around speed of access, logic and reason, tutor facilitation, appropriateness for subject and an easy mode to choose to do a minimum amount of work.

Variations in student learning approach

By applying the deep, surface and strategic student learning approaches to the initial categories in the data, the following Figure was produced. Deep learning and strategic learning approaches together outnumbered surface learning approaches in the data. Surface approaches were associated with making it easy to get out of class, a need for comfort and confidence in learning, requiring force or compulsion to learn, a self-confessed lazy approach to learning, the wish for a right or correct way of doing things, various blend “barriers” and the need for familiar ground.

Strategic approaches related to a recognised learning style and deliberate strategy for learning, self-directed learning, finding value in a smaller group and team belonging to share information, using words such as “useful” and “value” in relation to blended learning.

Deep approaches related to ideas such as surprise or unexpected learning, thinking and reflecting, trust and openness in the team room, difficulty and challenge, need for commitment from the group to make blended learning work, personal achievement, changed behaviour as a result of the experience, the difference in the learning approach in this module, enjoyment, freedom, healthy growth and development, interaction in learning.

Variations in types of motivation

The motivation descriptors of competence, extrinsic, intrinsic, fear of failure and achievement motivation were applied to the data on initial categories. It proved difficult to identify just one descriptor for every category so 25 of the categories were assigned more than one descriptor. Even then, there seemed to be gaps where the existing motivation descriptors did not relate to the categories. A possible further descriptor of “group commitment” was added to the framework which accounted for the gaps. Group commitment motivation could be understood here to mean seeking to avoid the worry of letting others down, pulling one’s weight in the team, wishing to help others to learn for mutual benefit, feeling one has to put

in effort for the team's sake or that of other specific members of the team. Once this additional descriptor was introduced, it was possible to assign categories to the descriptors, which added considerably to the understanding of the data.

The relatively small number of references to intrinsic motivation could probably be explained by the focus on the process of blended learning rather than the module content in this study.

DISCUSSION

Stages of learning

One of the features of this study was that while useful conceptions of blended learning were identified, there seemed to be no hierarchy relating the conceptions in any order of precedence. The data did not suggest that some conceptions related to a deeper level of learning for individual students in the sample; rather they suggested that student conceptions of the phenomenon studied changed with the progress of the learning experience.

Some of the conceptions arising from the study were relevant to student experience right through the module (blend positives, subject context appropriateness, personal approaches to learning and self-direction); but other conceptions related clearly to one or more stages in the process. So conceptions of blend barriers related only to the early stage, competence issues arose in the first half of the module until fears are allayed by feedback and /or increasing confidence, possibilities of a learning community arose mid way and developed through the rest of the module and issues relating to a desire for tutor control and structure related principally to the initial phase of the module.

Other writers who have referred to learning stages include Perry,[9] and Beaty and Morgan [10]. Perry described an initial stage of unitarist, right/wrong learning which seems to fit with the prevalence of references in this study to blend positives or negatives (barriers). Issues of competence and lack of confidence, together with a dependence on the tutor role and clear structures within the student conceptions would support Perry's thesis. In his discussion of the development of students through a college experience (1970), Perry demonstrates how most students moved through uncomfortable stages from this initial unitarist view, which accepted an absolute teacher authority, through perceptions of diversity of opinion and uncertainty despite the continued need to find the "right" answer, ultimately reaching a relativistic world in which he or she might commit personally to an intellectual maturity, which admits uncertainty and pluralism as the norm. Perry stressed the courage required to move through these stages of development and the need for increased support from the tutor to allow this progression.

Similar ideas were developed in "In the World of the Learner", a chapter in Marton, Hounsell and Entwistle's

The Experience of Learning [11], where Beaty and Morgan also set out stages of learner development (p134). Fresher, Novice and Intermediate stages all saw the system and the institution in control of learning, while the Expert stage set up control by self within a course and the Graduate set up control by self both in content and method of learning. These ideas relate to those suggested by this research study as all describe a process of moving towards self-direction and personal responsibility for learning with early stages which require considerable support and offer opportunities to take it easy or drop out.

These outcomes fit with ideas about the importance of initial support and guidance and the tutor's role in this when using blended learning. Carl Rogers proposed the vital impact of the tutor's role at the start of the learning process to develop student self-confidence and provide meaningful but highly supportive feedback and encouragement [12]. This was also emphasized by Gilly Salmon[13] in the early steps of her e-moderating model [13]. Teachers designing and delivering blended learning need to devote considerable time to initial reassurance (delivered both on-line and face-to-face) as learners become accustomed to new strategies.

Approaches to learning

As mentioned by Laurillard [14], there is a significant task effect on choice of learning style, that is whether a surface, deep or strategic approach is taken. Tasks identified within the module, the teaching style and the ground rules of the module itself, should take this conception of personal choice into account and offer tools and tasks which stimulate and deepen the learner's approach.

Marton's seminal work on deep and surface learning, quoted in the previous section, and its development by Entwistle to include strategic approaches, is clearly appropriate to the students' conceptions of blended learning in this study. The previous section set out how surface learning approaches produced the least important group numerically when related to reference categories, and these tended to cluster in the early stage of the module. The pedagogic design of such blended modules might clarify to students the benefits and characteristics of deep learning, both to improve learning outcomes and to prevent the level of regret in hindsight as late developing students realise too late the opportunities for self-direction and interaction which were available but which they may not have used to best effect. However, much work is needed on how this might be done, since it is possible for students to be led into reproducing and organising behaviours, which are intended to demonstrate deep learning, rather than actually experiencing such transformative learning.

According to Carl Rogers "...any significant learning involves a certain amount of pain..." [12]. The study showed that the technology involved in on-line learning, whether or not it was part of a blend with face-to-face methods, would always present barriers and problems to

learners and teachers alike. Yet committed learners, deep learners and strategic learners, will find a way around these problems in pursuit of their learning objectives. Even surface learners could be pulled through the barriers through the motivation of responsibility to the group.

The challenge to the tutor wishing to use blended learning in HE is to maintain encouragement and support throughout the process (an early stage set of conceptions) and, if necessary, take a creative route or a traditional back-up route to ensure no student is seriously disadvantaged by technology incompatibility or breakdown. Endless enthusiasm for the technologies and their possibilities for teaching and learning can easily become technological determinism, where the technology drives the teaching agenda instead of the other way around. Morgan et al [15] advise “technological opportunism” to the tutor, to adopt new ideas and experiment, but not on too many dimensions at once – building experimental technological elements on a sound base of proven pedagogy. We are in a transitional stage with these technologies, and need to offer support to students who, like academics, are grappling with steep learning challenges in ICT.

Motivation for learning

The students in this study appeared to need high levels of enthusiasm and varying levels of support and structure or rules to develop their motivation levels at the outset of the module, probably because it was situated in the second semester of the final year of study, by which time natural curiosity has long been exhausted for all but the most determined of learners. Students also needed to be encouraged to develop the confidence to experiment with the tools of learning offered on a blended approach.

The proposition of an additional motivator, that of group commitment, where learning is organised to develop a community approach, may be helpful in understanding the students’ conceptions of what makes them put in some effort. Learning motivation is clearly a highly variable and perhaps elusive factor, which will always be mediated by the student’s past learning experiences and their current personal and, for working students, their current work contexts.

Group commitment

While the notion of group commitment is superficially evident in any small student group which has developed a sense of team, this study has demonstrated its explicit place among conceptions of blended learning. Alongside the other powerful motivations for learning identified by Entwistle, group commitment is seen by some students as a pre-requisite for on-line interaction, perhaps more so than in a traditional face-to-face delivery mode. The blended approach of the module studied made on-line interaction through discussion boards, rotas for posting messages and group collection of data and problem solution a key part of the module’s teaching and learning strategy. These elements moved the on-line dimension of the module from a passive support mechanism and data

storage tool to an additional source of learning and a driver for reading and preparation of work.

The blended mode can help to maintain motivation once the early stage has been completed, by offering more opportunities to develop a learning community on-line, bringing its own group commitment and self-directed learning rewards to those who commit to participating in on-line discussion boards and intensive face-to-face workshops. From the evidence of the transcripts, the face-to-face sessions in a blended approach take on an increased supportive and motivational role due to their lower frequency and the perceived risk of blended learning.

CONCLUSIONS

The study has offered insights into student conceptions of blended learning. The stages of learning associated with different categories and conceptions offer teachers some ideas for the development of their role in blended learning, a role which clearly must be higher profile at the outset of such a module, until student-student interaction has reached a critical mass and a learning community begins to develop. Discussions of student motivation and learning approaches have been related to the students’ conceptions and led to proposals concerning teaching design strategies relating to the different stages of the module. An additional motivator, group commitment, has been proposed which is experienced by students as a driver for learning.

What does the study tell us about student conceptions of blended learning? That students who have experienced blended delivery value the flexibility and connectivity which encourages regular on-line forays into wider resources and problems than those confined to the classroom. The barriers posed by low skill or technical access and cost tend to be associated with an early stage of study and for many are relatively easy to jump. Learning support and skill development must remain key elements of an introduction to blended learning.

We also know that self-directed learning strategies and the interdependence of the student group are key factors in successful blended learning for students. Not every student will be prepared for this, and teaching strategies need to provide support for students whose self-directed learning skills are low, who are still at the earliest stages of learning, and who do not feel any commitment to the learning group. Rota strategies and incentives to contribute jointly (prizes or joint assessment for example) may be a way forward here.

The small group size preference for on-line activities, such as themed discussion, was clearly a majority view and has been shown to involve potential lurkers and those who do not contribute actively to class discussion. This is complemented by a teaching strategy which actively

moderates on-line discussion with encouragement and support for effective contribution, particularly in the early stages.

We can also say that confidence and developing competence are associated with the early stages of adopting a new learning strategy such as blended learning, but that these concerns seemed to be less evident as learning progressed.

The next series of questions to be asked about blended learning must include an investigation into the conception of learning community and the associated issue of "group commitment". In what contexts is this a motivator for students using blended teaching activities? To what extent could students be prepared for the group commitment required, and how? Given the skills and attitudes which seem to be seen by the students as necessary for blended learning, what initial assessment might be indicated prior to such study, to allow those with skills needs or attitude mismatches to be supported through the blended learning process? Is it possible to develop a "readiness for blended learning" instrument, possibly along the same lines as the established "Self Directed Learning Readiness Scale" created by Dr L Guglielmino [16]?

There are many more questions to be answered. In particular, whether the HE context of this study and much of the research preclude its conclusions from application to e-learning in the workplace; how best to develop teaching and learning strategies which account for dynamic motivational changes and learning approach choices; and how best to identify students' attitudes to and skills for blended learning as they arrive on the module in order to adapt the teaching and learning strategy to their background, prior experience and current and future needs.

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Appendix 10

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Engaging from the Inside: Reflections on the Value of Social Cognitive Theory for Learning in Online Discussions.

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Abstract: Bandura's work on Social Cognitive Theory (1986; 1989) offers a number of concepts which resonate with the experience of learning in online discussion boards. His triadic reciprocal determinism model of interactions between an individual's thinking and emotional state, their behaviour and their environment, grew from his earlier work in child development psychology. He argued that we are in control of our actions to a greater extent than many current Higher Education learners may recognise.

Our experience of students' use of discussion boards in Virtual Learning Environments (VLEs) has led to frequent frustration with the level of interaction and meaning construction, producing instead opportunities for hidden individual learning (Kanuka and Anderson 1998) but less evidence of academic debate than we would like. Yet the unique archiving potential of developing thought and ideas and the potential plasticity of the online discussion to accommodate varied learning strategies (Greener 2007) spur us on as teachers to strive for better ways to motivate and engage learners in this activity. As teachers we have some years' experience of moderating online discussion at different academic levels for undergraduate and postgraduate students. We recognise opportunities from Bandura's work on modelling, self-efficacy and self-direction to explore these issues from an HE teacher's perspective, from inside the experience of asynchronous discussion.

This paper will explore what Bandura has to offer online teachers on these issues through the use of a series of structured reflections, prompting us to make sense of them and construct further opportunities to learn (Moon 2000 page 38). The reflective approaches used allow the authors to explore personal anchors and mindsets, (Jacobs 2005; Sergioivanni 1986), frames (Bolman and Deal 1997) to reflect on the wider context, and a repertory grid approach (Pedler, Burgoyne et al. 1994) to propose further research.

Keywords: asynchronous conferencing, social cognitive theory, reflection

1. Introduction

Bandura identifies "self-reflection" as a uniquely human ability, making it a vital part of his Social Cognitive Theory (SCT) (1986); he saw it as a way in which people could think, learn and take control of their own actions. At the time, this was part of his reaction against the constraints of prevailing behaviourist theories, which suggested that individuals were at the mercy of external stimuli and deep-seated inner drives. Today in Higher Education (HE), we use reflection as an essential learning tool, encouraging students to review what they are taught, what they read and what they learn from experience, to develop their own constructions of this knowledge. What better tool, then, for HE teachers to use, in order to explore the relevance of SCT to asynchronous online discussion in a virtual learning environment (VLE).

In this paper we set out our understanding of Social Cognitive Theory in relation to the concept of online discussion boards in a VLE. We outline the practical experience of discussion boards as an experiential base for reflection. We then explain the systematic reflective techniques used to explore online discussion in relation to Bandura's view of social cognition and learning. Finally we summarise the findings of our systematic reflections, drawing out key ideas for further research.

2. Social cognitive theory

Bandura's Social Cognitive Theory considers the power of human agency in life's achievements, beliefs and outcomes (1986). In proposing reciprocal determinism among personal emotional and

cognitive factors, actual behaviour and the environment in which this happens, he describes a complex feedback mechanism. What people believe about their capabilities, what they see other people achieving around them, (and how they identify with those people), how they assess prior performance of tasks, their estimation of the skills and knowledge they possess, and the community in which tasks are to be achieved, all these factors will interact. The outcomes affect choices of what will be undertaken, how people feel about approaching the task, and how much effort they are likely to put into it.

"People's level of motivation, affective states, and actions are based more on what they believe than on what is objectively true."
(Bandura 1997 p2)

The concept of self-efficacy, the extent to which an individual believes s/he is capable of an action, and its role in self-regulatory strategies, is increasingly discussed in relation to learning in formal education and in particular online learning, away from the teacher's physical presence and a situation requiring more autonomy on the part of the learner (Artino and Stephens 2006).

SCT clearly emphasizes the social impact of others' behaviour for vicarious learning, showing that attention given to others' behaviour is affected by the observer's perceptions of similarities or differences between the observer and the actor (e.g. gender, age, status, attractiveness etc). If attention is achieved, this observed behaviour is retained in memory by the observer's ability to symbolize, making sense of the action and relating this to their own relationship to the action (e.g. past experience or skills and knowledge required). Reproduction of this behaviour is compared with the retained memory of that observed behaviour. Whether the modeled behaviour is reproduced will be mediated by incentives (or disincentives) from the external environment, from the actor, the individual's self-efficacy beliefs or other influences in that environment, as well as the individual's emotional and physiological state.

Why should this theory be useful in an understanding of online discussion for learning? The social dynamics of an online discussion board throw the individual into visible focus in their group relationships. The learner has autonomy to interact or not, although there may be academic incentives for this, through assessment, structured tasks and a level of enthusiasm for the subject of discussion. The theory may help us to understand a complex interaction, involving vicarious learning, in which self-efficacy may affect behaviour in the discussion board.

3. The online discussion board – a context for reflection

"...it is only through active intervention of a teacher that a powerful communications tool such as collaborative computer conferencing, or cooperative learning becomes a useful instructional and learning resource." (Anderson, Rourke et al. 2001 p5).

This study is based on Greener's experience of using discussion boards in a UK Higher Education Institution (HEI) for final year undergraduate and postgraduate learning. The VLE used was Blackboard™, which allows multiple asynchronous threaded discussion boards to be created within module and course areas. The nine boards, on which this study will focus, were created and moderated over a period from one to five years, including two moderated at course level, as a meeting place online for different cohorts on a part-time postgraduate degree, the rest all relating to specific course modules. Size of groups using the boards ranged from 6 to 40 students and most involved part-time students. Some boards complemented classroom sessions, others were designed in blended mode to alternate with classroom sessions, supported by guided reading and online materials.

The discussion boards were created and moderated for different purposes, for example: sharing critical analysis of literature, sharing professional experience and discussing this in relation to

theory, communication amongst students on different cohorts as a network for sharing ideas, best practice, and professional news, and to encourage learning around module assessment. All boards were introduced and moderated with the intention of promoting learning, rather than as social spaces.

Discussion boards have been used for learning, rather than administrative or social purposes, because they allow the teacher to facilitate learner development (Ryan, Freeman et al. 2000) adding value to the experience of the classroom. While we acknowledge the resource arguments for increased online activity, we have sought extra pedagogic value from these tools, not just replacement of face-to-face activity. Increasingly, asynchronous discussion boards are becoming one of many tools, through which learners and teachers can interact, some of which (e.g. wikis and blogs) can offer much more control to students over their learning. However our practical experience is that we have not yet plumbed the depths of what simple threaded message boards have to offer the learner and teacher, hence this reflection.

4. Reflection as a technique for knowledge construction

Why should we reflect? We reflect as part of our natural thinking behaviours (Hall's "everyday reflective practice" (1997)) as part of what makes us human. From a pedagogical perspective, Schon (1987) emphasizes the ideas of "reflection in action" and "reflection on action", distinguishing between that which is done in the midst of action and can alter our responses and behaviours in real time, and that which takes place after an action is completed, where new views of reality can be made, producing post facto learning. Here reflection takes on a purposive flavour, a tradition, which includes Dewey and Habermas advocating a deliberate and systematic approach to reflection (Dewey 1997; Morrison 1995).

It is this purposive approach to reflection, which can underpin transformational learning (Mezirow 1978; Moon 2000) and develop knowledge (Dewey 1997), which we use here as part of our reflection on moderating discussion boards. Hall describes a second level of reflectiveness, in the context of Higher Education, as requiring commitment and deliberate activity to review and develop practice (including journal writing, talking with a critical friend and focus group discussions) (1997). Her third level of reflectiveness is associated with programme and project work in educational practice. Our approach takes the systematic element from Hall's third level of reflectiveness and combines this with commitment and explicit attempts to capture and create knowledge, which appear at her second level. Drawing on creative techniques of "force fit" (Proctor 1995) we apply deliberate systematic techniques for reflection, to help us reflect on a specific, relevant theory in relation to our experience of online discussion boards. The intention is to focus on the production of new thinking from past experience combined with specific theoretical insight.

5. Systematic reflective methods used in this paper

5.1 Theories of practice, personal anchors and mindsets

We have chosen techniques to offer differing reflective perspectives. We begin with a reflection on personal anchors and mindsets, based on a practical approach described by Jacobs (2005) advocated by professional practitioners Sergiovanni (1986) and Aviola (1999). This structured reflection starts with "practice episodes", characterised by intentions, actions and realities, which stimulate reflection. Underneath the practice episodes sit "theories of practice". These have something in common with Schon's "reflection-in-action", in that they usually guide practice episodes unconsciously but may be called upon for scrutiny during an episode, as if we were consulting a second self to determine our next move based on all knowledge and belief accumulated to date. Theories of practice include what Jacobs refers to as "mindsets and platforms for action" – the instant self-guide in times of need, mindsets based on a personal accumulation of

beliefs, assumptions, knowledge gained from planned learning events and emergent knowledge gained from experience.

The deeper layer in this analysis comprises personal beliefs or anchors, called by Jacobs “antecedents”. These stem from our personal educational background, but also our social, religious, economic and historical background, which will have affected our formation as individuals. We add to these antecedents, elements such as our self-knowledge, tacit knowledge and understanding, the way we have made sense of life in the past. This technique will surface assumptions about teaching and learning philosophy consciously and unconsciously used in moderation of discussion boards.

5.2 Frames (Bolman and Deal 1997)

The second systematic reflection uses four frames or perspectives to question experience. These frames ask similar questions about emerging problems and underpinning issues but from structural, human resources, political and symbolic frames. Questions are about problems found, evidence for them and constructive changes proposed, but force the reflection to take on board the organizational or system context of the events – in this case the use of online discussion boards, rather than the personal thinking and attitudes revealed.

5.3 Backwards Review (Pedler, Burgoyne et al. 1994)

This reflective exercise offers a mechanical sequence of steps, which make reflection on personal characteristic behaviours accessible, i.e. bringing them into awareness and questioning them. This is done by identifying a number of meaningful events on which to reflect – here experiences of nine discussion boards. The second step picks three of these events at random. The first, and each subsequent, group of three events is compared to find dimensions of difference, which relate two of the events but exclude a third. For example, we identified one of these dimensions of difference as the amount of active moderation. The extremes of each dimension are simply labelled A or B. This process is iterated until at least 6 dimensions of difference are identified, all of which are then set out in table format and each event is coded A or B on each dimension.

The final two steps compare row patterns of As and Bs looking for relationships, especially identity or mirror image, then analyse what these patterns could mean. This process can be time-consuming and sometimes furnish relatively little analysis, although revisiting the dimensions and adding to or adapting them may yield further information. This reflective technique can focus on the specific detail of events and bring to light patterns of behaviour which were previously unnoticed.

6. Reflection on personal anchors and mindsets

The “practice episodes” in this reflection were the nine discussion boards detailed above, although much of this part of the reflection is based on those (7) of the boards we moderated. Reflecting on the intentions associated with these boards, we produced the list in table 1 below.

Table 1: Reflections on intentions for the pedagogic use of online discussion boards

| Connection and communication | |
|------------------------------|--|
| 1 | Sharing details of professional experience to broaden students' knowledge |
| 2 | Sharing and developing understanding of ideas and theories from the curriculum, including the opportunity to ask questions after class |
| 3 | Student / student communication outside the classroom |
| 4 | Student / teacher communication in a whole group outside the classroom, rather than by individual emails |

| Self directed learning | |
|--|--|
| 5 | Construction of personal ideas, developing personal insights, through challenge and debate |
| 6 | Encouraging student leadership of discussion |
| 7 | Facilitating student choice in when and where they could participate in discussion |
| Development of academic and professional knowledge | |
| 8 | Sharing academic references, and comments on them, relevant to class topics |
| 9 | Opening up issues of student interest or professional concern for academic review |
| 10 | Encouraging students to make their understanding of an idea explicit through writing which is visible to all |
| 11 | Recording discussion, references and critical analysis of topics for student revision |
| Personalising support | |
| 12 | Allowing the teacher to understand student perceptions of issues on curriculum and current work concerns |
| 13 | Allowing the teacher to use dialogic discourse to guide learning and/or to correct ideas which may not be helpful to the student |
| Role modelling academic behaviours | |
| 14 | Allowing the teacher to raise questions related to theory which are rooted in students' practical comments or concerns |
| 15 | Allowing the teacher to demonstrate critical analysis in detail beyond the classroom |
| Develop pedagogical understanding and knowledge | |
| 16 | Allowing students and teachers to continue and to introduce new material to discussions started in classroom time |
| 17 | Allowing the teacher to identify areas in which specific students need further support |

"Theories of practice" associated with our roles in these boards reflected our enthusiasm for the medium and its potential to contribute to learning alongside face-to-face teaching, together with a strong commitment to student support beyond the classroom. Our self-efficacy beliefs come from our excitement at opportunities for learning from asynchronous discussion, which we have experienced as stimulating knowledge construction and opportunities for quick access to learning resources, which can expand the curriculum and add currency to the learning context (Rospigliosi, Shurville et al. 2004). Our constructionist beliefs have supported efforts to develop an online environment for our students, which gives them space and more control over discussions than in class (while recognizing that control in discussion boards is still heavily with the moderator and may not feel so empowering to the students). Sharing pioneering experiences with other academic staff, as we experiment with the affordances of VLEs (Conole and Dyke 2004) and good practice in moderation (Salmon 2000), has supported us through disappointments with initial attempts at engaging debate online, providing models which, given our teaching beliefs, have caused us to persist and devote extra effort to the process of improving learning opportunities from online discussion.

Such vicarious learning within the academic "enthusiast" community, together with our personal interests in technology and fairly high self-efficacy beliefs, have led us to pioneer and adapt new ways of running boards. We have to restrain this enthusiasm from suggesting that the self-efficacy beliefs of our students are likely to mirror our own. Students' theories of practice will be affected by their experience of using discussion boards, which for mature students in 2007 is still often limited, although this is likely to change rapidly with widespread use of such boards for social as well as academic purposes.

The student experience of technology, achieving access and overcoming inevitable obstacles in accessing VLEs from home and work, are potential incentives or disincentives in Bandura's terms, mediating opportunities for vicarious learning. The online environment is uncomfortable for some, particularly when the academic tasks involved are not well understood, producing an emotional obstacle to contributions in online boards, as well as fear of exposing possible lack of knowledge. This feedback could lead to a student mind-set associated with low self-efficacy online.

Reflecting on the antecedents of such theories of practice for academics and for students using discussion boards, can we learn about personal anchors and self-beliefs? For students, this reflection focus could well be the object of further research. We can hazard guesses at our own beliefs, which have led to a keenness to experiment with technology and a desire to support students beyond a lecturing mode. We associate this with passionate beliefs about the centrality of learning in living, a rather holistic view of what learning is about – encouraging and giving value to learning experiences from wide sources beyond but including the academic, professional and pragmatic, as well as theoretical, learning preferences. The authors have all worked outside academe and bring an eclectic and applied perspective, which values a deep search for understanding but dislikes rigid, time-honoured processes for achieving that understanding. This suggests that reciprocal determinism of environment, behaviours and personal factors has considerably affected our self-beliefs and theories of practice with regard to online learning.

7. Reflection from differing frames

Bolman and Deal's frames provide a helpful way of reflecting on the wider context of the use of online discussion boards in HE learning and teaching and their relation with Social Cognitive Theory. Using each frame, we asked questions about problems experienced, evidence of them and constructive approaches to change.

From a structural frame, the problems encountered were technical. The VLE constrained how discussion boards were encountered and entered by students, the layout determining which elements of the discussion were visible at any one time, and how easy or difficult it was to respond to different postings or start new threads. We also experienced technical constraints when running multiple boards for groups within a cohort of students, involving more time accessing boards than was productive. When institutions adopt a standard commercial VLE, the benefits of consistency for users and support can be great, but the constraints of particular software are a major irritant for academics and learning technologists alike. The students' rarely distinguish between what can be "solved" by academics and what could only be solved by a software revision, and this can reflect negatively on their perceptions of the environment as a place to learn.

From a human resources frame, academic staff have often ignored the potential value of online discussion for pedagogic purposes, preferring to use them for spontaneous queries, and using consequent low usage to confirm their beliefs that discussion boards are unsuitable for learning; once again showing feedback in action. The "educational innovators" (Wilson and Lowry 2000) among academic staff have tended to move on to more exciting and adaptable social software as it has become available, with its offer of greater student control and intervention, while those left behind have often treated VLEs as administrative tools rather than pedagogic ones.

Reflecting on the political frame of discussion board use was a challenge, because a political frame looks at a wider context and there is already much literature around institutional readiness for online learning environments, and best practice guidelines on how best to adopt VLEs (for example O'Leary 2002). In the authors' experience, discussion boards have become to some university sub-cultures a no-go area, being associated in academics' minds with extra work and poor quality of posting. This acceptance of early experience as closure may seem extraordinary, but the adoption of new technology will always be affected strongly by issues of ease-of-use and perceived benefits of use (Moore 1991).

From a wider political perspective, the use of online discussion boards can be one part of an empowerment strategy for the learner, as discussed by Stokes, who sees a potential for changing power relations between learner and teacher through such online discussion (1996). This fits with some of the pedagogic intentions outlined above for discussion boards, but the software and time constraints experienced by academics limit real potential.

Finally the symbolic frame reflection produced ideas around the vision of the institution in using VLEs, but also the learning and teaching strategies of academic teams around courses. Boards which focused on applying theory to experience, developing vocational skill range and problem-based learning were most likely to support online discussion, whether through asynchronous boards or other software tools. Discussion boards which seemed to support learners best towards

these objectives involved active moderation from staff, who did not make simplistic assumptions about digital preparedness of students and simply behaved as good teachers online: clarifying, supporting, challenging, modeling appropriate behaviours and giving clear feedback (Chickering and Ehrmann 1996). Where there was no moderation, there was often a negative experience of online discussion. Where discussion was mentioned during face-to-face classes, debates taken further between face-to-face and online events, points raised in online discussion boards publicly within the class, these behaviours led to positive feedback and improved participation and constructive contribution.

8. Reflection from a critical incident repertory grid

Eleven dimensions of difference were identified including the length of board life and the degree of academic task focus. Close associations were found between the volume, frequency and length of postings and the degree of structure or task focus of the board. For all the boards used in this example the purpose of the board was clear, but students were seen to respond better to a particular task such as discussion questions set in reading or class, critiquing a particular article or researching, sharing and discussing experience of a particular phenomenon e.g. diversity legislation in the workforce or recent moves in a stock market.

There was a relatively low association between these proxies for high board usage and size of group. This could suggest that the size factor was unrelated to board activity, or that group size alone is insufficient to encourage high use of the board.

There was a close association between high board usage and the specifying of tasks which appeared more “academic” in nature, which suggests that students will take part in such boards more frequently when they rate the academic value of the activity. The more “social” or “administrative” the board appears to be, the less likely this board is to attract a large number or frequency of postings. The students’ perception of the academic value of discussion boards should be investigated in relation to enthusiasm or reluctance to post.

We could also suggest that the posting activity will be more structured when academic tasks are proposed. It may seem obvious that academics are better at structuring academic tasks than social or administrative ones. However, academics may need to understand more clearly what they expect from discussion board activity. It is useless to be disappointed at low levels of activity on a board when a clearly structured and valid academic task is not designed and communicated to students.

We expected the frequency of response postings would be associated with the level of challenge and dispute on the boards, particularly where the board is intended for discussion rather than student visibility, and we would expect a high level of dispute to cause a large number of response postings. This happened only two thirds of the time. Could we speculate that the well-discussed lack of non-verbal cues, which we often need and certainly use to maintain conversation and argument are depressing the continuation of debate online? This is a question worthy of research if we expect constructivist and dialogic approaches to learning to be achieved through logical argument.

Response postings, a form of sustained conversation, do not seem to be affected by active moderation, and since this involves frequent response postings and invitations to further debate, there is no noticeable role modeling effect here. We must also accept that, in addition to the role of non-verbal cues, self-efficacy and underpinning knowledge could be at work here.

9. Conclusions and actions

This reflective paper is intended to offer ideas for debate, which have arisen from systematic reflection on our experience of discussion boards. We have found ideas which could usefully be

researched through both an academic staff and student perspective, and which may be usefully extended to a non-academic context where threaded discussion is used in the workplace.

These ideas include the relevance of Bandura's Social Cognitive Theory to help us understand the feedback mechanisms in an online discussion board. We have tried to understand how individuals feel and think when communicating through text online, how their emotional state as well as their cognitive capabilities, their self-efficacy beliefs and their own and others' online behaviours, and the environment layout and usability itself, along with incentives for academic activity, can interact and influence what students actually write, its frequency and its learning value. The theory suggests we need to focus more clearly on the conditions, which set up self-efficacy beliefs, and that we can take control by understanding better how this feedback mechanism works.

We have identified a range of potential aims for discussion boards, which include the plasticity and archiving nature of text-based discussion as well as offering targeted communication and feedback in a social learning context. We have explored the nature of personal anchors, which may differentiate us from academics, who are less keen to adopt discussion boards. This reflection suggests another line of research into how other academics perceive discussion boards and the barriers and stimulants to using them.

The frames reflection identified external constraints and motivators for the use of discussion boards, as this activity must be situated within its environmental context. Our needs for continually updated expertise and help from technology specialists, together with the political, software and institutional constraints experienced, present a context for board moderation, which needs wider understanding within HEIs.

The repertory grid reflection produced insights into what makes people post online, in particular suggesting a divergence between a passive or administrative use of discussion boards and an actively moderated board with clearly designed tasks of perceived academic value and structure, which is likely to be associated with greater pedagogical benefit. Further research exploring the perceptions of learners and moderators could add value to existing guidelines for moderation and best practice in online discussion. We have picked up issues relating to sustained online conversation including size of group, lack of cues, possible explanations for low response postings etc, which should be validated by further research. Our reflection has not taken us into themes such as the enabling of those with lower level language skills and the impact of student choice on when and where to take part in online discussion – we acknowledge these issues as relevant to a discussion of asynchronous conferencing and welcome further contributions to our understanding of online discussion through the presentation of this conference paper.

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