“A CASE STUDY OF VIRTUAL LEARNING ENVIRONMENT COURSE DEVELOPMENT IN SCOTTISH HIGHER EDUCATION”

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Abstract

Virtual Learning Environments (VLEs) are now an important part of Information and Communication Technology (ICT) strategy in Scottish Higher Educational institutions and beyond. VLEs, which can have a variety of other names such as virtual campuses, interactive web environments and managed learning environments (MLEs) are now considered as part of a group of software, known as learning platforms. The dissertation, which is insider research, examines the non-technical issues involved in VLE course development. The author has been developing a number of VLE courses for two departments in one Scottish Higher Education Institution, using the WebCT VLE.

The promotion of learning in the educational context is discussed which examines some of the central claims of the constructivism versus behaviourism debate. A literature review has also been completed on a number of subjects such as Virtual Learning Environments, Managed Learning Environments, and the rise of VLEs in Higher Education, particularly in Scotland. Practical and theoretical definitions of VLE are discussed.

A case study has been completed on the author's VLE course development. The thesis reports on a number of issues in the case study. These include the fear factor amongst academics, the range of staff training both in using VLEs and their application to academic subjects, as well as some of the policy and management decisions that were taken at department and university levels.

The discussion expands some of the issues raised in the literature review and case study, particularly with regards to the nature of training given to academics, and the promotion of the VLE as a learning tool.

Chapter One – Introduction (including Terms of Reference)

Information and Communication Technology (ICT) is now regarded as "a pivotal teaching and learning resource" (Munro, 2003, p.550). One aspect of this resource which can be used for teaching and learning is a Virtual Learning Environment (VLE). This is where tools such as file repositories, web links and discussion forums are used online in addition to traditional resources such as lectures and tutorials. In the field of education, VLEs have become an important part of ICT strategy. This is particularly prevalent in higher education institutions. Recent data has shown that 98% of all Higher and Further Education institutions in the United Kingdom now have some form of VLE (Jenkins et al., 2005). In Scotland, "virtually all" institutions have a VLE (Price, 2006). Both references noted that many institutions have more than one VLE. An example is one Scottish university which has WebCT, SPIDER and FirstClass. VLEs can serve a wide variety of audiences such as students, academics and support staff. Further, these people can have a wide range of ICT abilities from beginner upwards.

Before a new VLE is adopted by a higher or further educational institution, as per any major software resource, a number of issues need to be considered. These issues are both technical and non–technical. Technical issues could include: the methodology by which a user gains access to the system, the installation of specialist computer equipment for the VLE, the addition of users to the system, and the

potential to link between the VLE and other ICT systems in the institution already in place.

Examples of non–technical issues are: the influence of educational institution policy on the selection of the VLE, the range of abilities of potential users, the amount of money needed for its implementation, and the training provision required to implement it. Addressing and resolving both sets of issues are equally important if the VLE is to be successfully implemented.

If an educational institution decides to implement a VLE, then it must consider the questions of why it is required and how it is going to be used. This underlying philosophy underpins everything subsequently associated with the VLE. As the technical factors are associated with ICT specialist staff, the main factors which are of greatest importance to those in the educational domain are those associated with non–technical issues. These include issues relating to pedagogy, social factors, educational institution policy and the management of that policy. This dissertation will raise and explore these issues.

The central tenet of this dissertation is a case study which examined non–technical issues that have arisen from the adaptation of a specific VLE – WebCT – into two departments of a Scottish Higher Education institution. The case study approach has meant that some of the discussion points appear in the methodology chapter.

To place the case study in its proper context, a comprehensive literature search was carried out. This included identifying and evaluating definitions of the term VLE, and its associated use in Higher Education. The search was then narrowed down further, first to the Scottish Higher Education domain and then to the specific Higher Educational institution referred to above. WebCT's place across Scottish Higher Education in general was also studied. The examination of these issues meant that conclusions were drawn which were found to be relevant to the use of VLEs in Scottish Higher Education and, indeed, beyond.

It is important to place into context the background under which this case study has taken place. From the outset, it must be noted that this is insider research. The author has professionally designed websites in Scottish Higher Education for many years. In addition, he has been directly involved with the two departments mentioned above since August 2005 in WebCT course development.

Ethical issues have also been considered. This dissertation has received ethical approval, and it means that both the University and Departments under discussion will be referred to anonymously. Thus, the University will simply be referred to as E, and the two Departments as J and K. In each department, a number of degree courses are taught, and these will be known as J1, J2, K1, K2 etc.

The degree courses are further split into a number of modules. This is an important distinction because, for technical reasons beyond the scope of this dissertation, it was not possible to create one WebCT course for the entire degree. Courses created for

WebCT in the two departments were therefore “modular courses”, and will be referred to as “WebCT courses” for the rest of this dissertation.

Departments J and K have between them a total of approximately 100 members of staff. These members of staff have a mixed range of ICT abilities, and therefore, a mixed range of VLE abilities. The author liaised with staff in both departments on a daily basis, and discussed a full range of both technical and non–technical issues with them. This liaison, a key part of his professional development, gave rise to one method of collecting data for this study – a mixture of discussion with the academics of the key issues and personal observation.

However, it is important to note that this discussion was not the only method used. It is always important to establish credibility in educational research, and the triangulation procedure as noted by Jon Scaife was employed (2004, p.72). To establish triangulation, two other methods were established to ensure that the research was credible.

The first method was to ask lecturers in Departments J and K to answer a written questionnaire on the same issues as had been established via personal communication. A copy of the questionnaire can be found in Appendix One. The questionnaire was approved by the University Ethics Committee before being distributed to the lecturers in Department J and Department K. 75 questionnaires were given out to staff in Departments J and K.

The lecturer's responses are shown in Appendix Two. These show that 48% of all lecturers responded across both departments. 65% of these replies came from Department J, and 35% from Department K. (Appendix 2, p.10).

The other method to ensure that triangulation was obtained was to refer to a similar study conducted by another researcher on lecturers' use of the Internet. This study, from an unpublished thesis, examined lecturers' use of the Internet at a further education college in the north east of Scotland (Barnes, 2006). As WebCT requires both a web browser and a live Internet connection, the Barnes thesis was essentially surveying both the same audience (educational lecturers) on a similar subject to the current study (use of the Internet). Under the definition of triangulation, the same system is being used for both studies. The use of these three different sources establishes triangulation for this study.

Another aspect has been providing appropriate documentation to both departments. Reports circulated to Departments J and K raised a number of non–technical issues which were relevant to this dissertation. Permission was granted by both of the departments to extract elements of these reports.

Chapter Two – Literature review

The rapid pace of technological change has meant that the methodology of the literature review had to be altered. The majority of relevant texts were likely to have been published electronically rather than in print form. It was also considered inappropriate to examine texts on the subject going back before 1995, as web browser software used to access the VLE was not as well developed at this time. Therefore, the Internet has been the main research tool in this dissertation.

This literature review will examine definitions of the term VLE, and the development of VLEs in the higher education sector. It is first useful to examine the promotion of learning in the educational context.

The promotion of learning in the educational context

There are many ways in which learning can be promoted. Two of the most common categories of learning theory in the educational field are constructivism or cognitive perspectives and behaviourism. There has been considerable debate between these two schools for many years as to which learning style is better (Rogoff, 1999; Fox, 2001). It has further been noted that there has been a marked shift towards constructivism in the educational community, particularly in the last 20 years, as exemplified by Tom Reeves: “Virtually all self–respecting instructional design theorists now claim to be constructivists” (Reeves, 1997).

It is not straightforward to give a simple definition of the word constructivism, as observed by Rebecca Soden, who notes that “Constructivism is described often as a vexed and messy landscape” (2003, p.658). One route through this landscape has been provided by Richard Fox (2001) in which he lists the central claims of constructivism:

- Learning is an active process.
- Knowledge is constructed, rather than innate, or passively absorbed.
- Knowledge is invented not discovered.
- All knowledge is personal and idiosyncratic.
- All knowledge is socially constructed.
- Learning is essentially a process of making sense of the world.
- Effective learning requires meaningful, open-ended, challenging problems for the learner to solve. (Fox, 2001, p.23)

This has repercussions when examining the use of computer-based resources in education. It is possible to show that the resource is being used in a behaviourist way, using the following definition: “A computer is a machine that carries out programmed sequences of instructions to manipulate coded data” (Guinness, 1993, p.265). The key word in this definition is “programmed”. The components of the computer have to be told what to do and how to do it before they can do anything. Therefore, as the computer cannot specifically think for itself, it is acting as a behaviourist resource. This comment is supported by Theo Lentz, quoting Robert Boguslaw, “Computers are not found in nature… they have to be built… and take

their places within a framework of existing social systems" (Lentz, 1972). Tom Reeves agrees with this judgement, as he notes that "It seems ironic that behavioural psychology continues to be the underlying psychology for many forms of computer-based education" (Reeves, 1997).

It may be advisable to ask if it is possible for computers to assist in the transfer of knowledge. At first glance, this might seem unusual. It seems that computers are a behaviourist resource, and that all knowledge is socially constructed. Thus, it might be implied that these are on opposite ends of the constructivist-behaviourist spectrum. However, there is debate as to the preferred learning paradigm for use in ICT (Corry, 1998; Reeves, 1997). Further, Martin Graff has noted that "the overall culture of using online methods for instruction is an issue that needs to be assessed" (Graff, 2003, p.27). For example, the Moodle VLE, which is used in Scottish Higher Education, is linked with the social constructivist paradigm (Dougiamas and Taylor, 2002). This paradigm is seemingly fundamental to the use of WebCT.

Similarly, there is discussion on which learning styles are appropriate to VLE usage, although it has been recognised that more research is needed (Leopold–Leusmann, 2000). One method by which it can be assessed is by using psychological learning scales such as Kolb's Learning Style Inventory (Cross and Faulkner, 2006). This scale was used on a study of undergraduates taking a philosophy module (Gibbs, 1999, cited by Becta, 2003). It noted that:

“Students learned from seeing each other’s work and … as a result, they adopted learning styles that were considered beneficial to learning a theoretical subject”.

The study also noted that higher levels of deep and strategic learning were noted by those who used the VLE system than those who did not. The students’ gained the advantages of improved meaning, better use of evidence, and an increased interest in the ideas of the subject. Better time management and study organisation were also cited as advantages.

What is being improved here is not the actual nature of learning itself – this is an individual characteristic. It is the methodology of working as a collective group that is being improved. Further, since the nature of learning is individual, that learning does not take place in the VLE.

The improved group methodology also confirms that there is educational value in VLEs, and would explain the time and investment in them. This must be partly spent in ensuring that the VLE can interact with other appropriate systems in the educational institution. These are done via Managed Learning Environments (MLEs). The Joint Industry Standards Committee (JISC) – the body which advises institutions on VLEs and MLEs – gives the academic standard definition of an MLE as follows:

“The term is used to include the whole range of information systems and processes of a college (including the VLE if it has one) that contribute, directly or indirectly, to learning and the management of the college” (JISC, 2004).

This means that all other computer based systems in the institution are in effect MLEs. The system used to register new students into the institution would be an example of an MLE, as would the Personnel and Finance systems.

Since VLEs are, by definition, MLEs, then these two terms can and have been used interchangeably. For example, on the University E VLE homepage, the title is given as the ‘MLE homepage’. However, the rest of the page talks specifically about VLEs rather than MLEs.

What is a Virtual Learning Environment?

This is a straightforward question to ask, but the answers that are available vary. It has been noted that “There is some interchangeability and indeed confusion regarding the terms applied to VLEs” (Becta, 2003). VLEs are also known as course management systems, virtual campuses, interactive web environments, interactive learning environments, and virtual classroom environments (Becta, 2003; SPIDER, 2006; Virtual School, 2006; Pilkington et al., 2000). These terms come under the umbrella term “learning platform” (Becta, 2004).

There are many different definitions of the term Virtual Learning Environment available. In order to find a suitable definition, practical and theoretical definitions of VLE are now critically evaluated.

Practical definitions

Here is one definition of VLE from an online encyclopaedia:

"A software system designed to facilitate teachers in the management of educational courses for their students, especially by helping teachers and learners with course administration" (Wikipedia, 2006).

This defines clear roles, particularly for teachers, and considers them to be the primary facilitators in the use of the VLE. It further notes that the main remit of such a VLE is a course management tool which specialises in the area of course administration.

The first part of the definition notes that teachers should manage the educational courses of their students. Although this is theoretically sound, in practice, this raises a number of key educational issues which have been identified by previous research. The issues include a skill shortage amongst teachers in ICT–related issues (Hammond, cited by Haven and Botterill, 2003), a lack of staff training in ICT issues (Eley and Eley, cited by Haven and Botterill, 2003), and a fear factor amongst

lecturers in resisting the use of new technologies (Forsyth et al., cited by Haven and Botterill, 2003).

These difficulties mean that the time it takes to introduce a new technology like VLE is much longer than anticipated. The teachers' skills mean that increased training time is required to make them comfortable with the whole concept of the VLE, and ineffective training can also increase this time. Additionally, if teachers are concerned about using new technologies, this will also increase the total training time. All of these factors mean that the teachers have to spend considerable time purely on acclimatising to the VLE. The rest of the teachers' time for completing other activities such as preparation for lesson plans is reduced. There is therefore a case for ensuring that the appropriate training and support is given to teachers so that they can embrace this new technology.

Students too will have to be trained. Their training, possibly by the same teachers, will be focused on correct ethical usage rather than technical basis. Educational institutions should ensure that resources for such training were properly allocated.

Looking again at the definition given previously for a VLE, we see that the focus is on course administration. This means that most time is placed on those parts of the course not relating to the course subject itself, but with those other elements without which the course cannot run. Such elements can include timetables, module descriptors, and course announcements. If this is the priority area of a VLE, then the subject itself is not – regardless of subject. If the VLE is primarily a course

administration system, then announcements could be made via this system, and module descriptors could be published. However, under this definition, the educational value for students remains unclear.

Theoretical definitions

A number of theoretically–based definitions of “Virtual Learning Environment” have been published. The first two come from other online encyclopaedias:

“A set of teaching and learning tools designed to enhance a student's learning experience by including computers and the Internet in the learning process” (Whatis, 2006).

“A virtual learning environment is a software system designed to facilitate management and student experience in electronic learning” (Knowledgerush, 2006).

The third definition comes from the JISC:

“A Virtual Learning Environment refers to the components in which learners and tutors participate in online interactions of various kinds including online learning” (JISC, 2004).

All of these are similar in that they all take a theoretical viewpoint.

Parts of the definition are broadly similar. “Whatis” refers to the VLE as a “tool”, Knowledgerush refer to it as a “system”, and JISC considers the VLE to be “a series of components”, which is simply describing the individual parts of the “tool” or “system”.

Both the encyclopaedias refer to an individual student’s learning experience, but do not state how that is accomplished. Additionally, the JISC definition states that there are online interactions in the VLE. It is vague in that we are not told what these are, except for “online learning”. For example, emails sent and received by students are online interactions, and these would be completed on a specialist program. That program would be a component, but the JISC definition does not specify whether that component is part of the VLE.

Further, if the online learning applies to all interactions, the nature of that learning is difficult to measure. It becomes even harder when one considers that the online interactions may have been influenced by factors external to the online environment. If a discussion forum message has been influenced by a verbal conversation with another party, does this mean then that learning has taken place as a result of the verbal interaction, the electronic interaction, both, or neither of these? It is very difficult to answer this question.

The Becta definition

Several practical and theoretical definitions of Virtual Learning Environment (VLE) have been discussed. In many cases, these definitions have considered the student's learning experience. This has been found to be individual to students, and not a direct consequence of the VLE itself. The adopted meaning for this dissertation should not include any reference to learning.

Such a definition has been provided by Becta, who consider that a VLE is: "A software tool which brings together resources for curriculum mapping, delivery, assessment, tutor support, communication and tracking" (2004).

The definition combines both practical and theoretical elements, covers all aspects of the VLE and makes no reference as to potential users. For these reasons, this definition will be the one that will be used throughout this dissertation.

The development of VLEs and MLEs in the Higher Education Sector

The educational sector has seen an exponential growth in the use of VLEs and MLEs (Becta, 2003). A number of studies have been done in the last decade or so to explore these. Gerald Schutte (1996) performed an experiment where two groups of students completed a Social Statistics course, one via a traditional classroom method and the other group via the World Wide Web. The World Wide Web is now regarded as the forerunner of today's VLEs (Chung, 2005). The result of Schutte's experiments

showed that “those taught (via the Web) scored an average of 20 points higher on the 100 point midterm and final exams.”

At first glance, this would suggest that the technology had a direct impact on the students’ grades. However, student interviews had revealed more face to face conferencing between students. Further, it was noted that “much of the performance differences can be attributed to student collaboration as to the technology” (Schutte, 1996). The performance improvement was put down to improved teaching methods. As a result of having the World Wide Web as the only method of study, the students were discussing the subject between themselves in small groups. This group working had the effect of improving their understanding of the subject, and thus, their marks.

By 2002, there had been considerable growth in both VLEs and their place in Higher Education in the UK (Haven and Botterill, 2003, pp.79–80). Packages such as WebCT, Blackboard, coMentor, First Class and Top Mentor were all being used. These are a mixture of “commercial products and university–based projects.” A number of reviews about VLEs in higher education have been published (Chin, 2002; Koskela et al., 2005, pp.21–23). It is very difficult to give information about every single VLE that is available.

The results of these case studies sent out mixed messages about VLEs. Koskela et al. noted that “VLEs are suitable for higher education”. However, of the five case studies examined, only three said that they were more effective than traditional

teaching, one said it made no difference and the other considered that “learning with the VLE was not effective” (Koskela et al., 2005).

Many of these studies simply relate to the interaction between students and one single specific VLE. Placing identical course material before one group of students and asking them to compare two VLEs directly has been described as “an almost impossible task”. For this reason, the amount of material directly comparing VLEs with each other is very limited. Reviews have been done both in Australia and America (Rankine 2001, cited by Becta, 2003; CIT, 2001, cited by Becta, 2003).

Surveys have attempted to establish if there is any variance in the way that VLEs are used across subjects (Timmis et al., 2004). A number of VLE courses in three subject areas (Education, Psychology and Economics) were examined. It was observed that ‘Most of the issues that have emerged so far … are cross–cutting and relevant across all the disciplines.’ (Timmis et al., 2004, p.17). These courses were created on various different VLEs, so the issues do not relate to those VLEs. This is a major reason why this study concentrates on the non–technical issues relating to VLEs. This view is supported by Avgoustos Tsinakos (2004) who notes that “the quality of an education session derives not from the VLE in use, but from the teacher’s competences and skills”.

VLEs in Scottish Higher Education

In Scottish schools and colleges, VLEs in use include Blackboard, FirstClass, Pioneer, and SCHOLAR (Becta, 2003, p.43–45). In Scottish universities, the list includes Blackboard and Moodle (Becta, 2003, p.41). SPIDER and WebCT have also been cited in University E (University E WebCT administrator, personal communication, 2006).

The products mentioned above are a mixture of bought–in products and internally developed VLEs. WebCT is prevalent at three major Scottish universities – E, V and C, Blackboard has been found in University I, and Moodle was developed in–house at University L. It has been found that the VLE model was much more frequent in colleges – i.e. the Further Education sector – than universities. Moreover, where it was found in universities, it was more common for a VLE to be found at departmental level rather than institutional level (Price, 2006).

This is particularly true in University E, where there are three major VLEs in use – First Class, WebCT, and SPIDER. Both FirstClass and WebCT were bought-in products at institutional level. However, SPIDER was developed in–house in one department. Its website gives an idea of its early history:

"(SPIDER) started development as a web project to convert a single teaching module … into an interactive web environment" (SPIDER, 2006).

There would seem to be many differences between a department-based package such as SPIDER and an institution-based one such as WebCT. Firstly, SPIDER started life in University E as a student project. Since it was created in a specific environment, this may make it much more reactive to the needs of the local department if changes are specifically required for the system. It would appear that any solution would also be provided more rapidly than a bought–in VLE, which might be able to specifically give such a solution, but not as rapidly. This has repercussions for all users, both in the department, and in the university generally.

Another difference is in the way that the two VLEs look and feel. For a VLE course developed on a bought–in product, such as WebCT, the institution could place branding on its courses to reflect the University or the department. However, this branding may well be limited, and the course will reflect the externally-based VLE more than the institution or department presenting the course. Moreover, particular features like file repositories and discussion forums are provided by the external VLE. The VLE developers could well have made decisions during the software development processes as to the general look and feel of these items. When an educational institution buys in such products, it seems that they have to adapt to the constraints placed on it by the VLE, not the other way around.

It is likely then, that the situation is different for a departmental VLE like SPIDER, where there is seemingly a much more relaxed look and feel. Features on SPIDER included a cartoon spider appearing on every page (including a special Christmas variant), SPIDER’s own virtual awards ceremony, user created graphics and it also

allowed users to post discussion messages in their own nickname. It is unlikely that any of these features would have been available on a bought–in VLE. SPIDER developers offered extensive tutorials for new users, and training sessions were also held at regular intervals (SPIDER developer, personal interview, 2006). It appeared that the relaxed feel of the departmental VLE encouraged increased usage of SPIDER.

Regardless of which package has been used, there are still issues that concern both of them. Surveys conducted in Scottish education have shown that relatively few academics have heard of a VLE, and that "an extremely small" proportion admitted to using it (Price, 2006). Consequently, it was felt that in many institutions, the VLE was still not being accepted as an essential teaching tool. Price also observed that there was "a pressing need for awareness–raising, clear communication of policy, and training in the use of VLEs" in Scottish education (2006). For academics and the educational community in Scotland, this is a concern. It would appear that the issues raised from this concern should be addressed at institution level, rather than in their own departments.

There is another problem which has also been raised in the Scottish Higher Education domain. One study of a departmental VLE completed at University Q noted:

"Research increasingly shows that students do not always use (VLEs) in the ways designers and tutors expect or desire" (Beasley and Smyth, 2004, p.43).

It is possible that part of the problem is the misuse and misunderstanding of VLE terminology. Both the studies quoted above did not refer to their departmental packages as Virtual Learning Environments. They instead use ‘Interactive Web Environments’ (SPIDER, 2006) and ‘Online Learning Environments’ (Beasley and Smyth, 2004, p.43) respectively. This would appear to agree with the views of Becta and John Erskine, as the latter points out, “Terminology – and in particular the misuse of terminology – abounds in the area of VLEs” (Erskine, 2003).

What literature is associated with WebCT?

WebCT is regarded as a “market leader of VLEs” (Chin, 2002; Ngai et al., 2004) and also “arguably one of the main commercial vendors to UK educational institutions” (Chin, 2002). There has thus been a wealth of both technical and non–technical literature written about it. Much of this is on the WebCT website. The technical literature considers a number of points such as server architecture, and support issues. There is also a discussion forum where WebCT users can offer support to each other. Many of these postings often relate to the limits of the software package, and come from lecturers who are applying pedagogical and social issues to WebCT to understand what they can and cannot do as module designers (WebCT, 2006a). There are also exemplar projects and case studies, which include the implementation of WebCT in various UK universities such as University T (WebCT, 2006b).

The WebCT website also holds information about conferences to discuss issues of mutual interest. The most recent conferences held considered a range of issues such

as the upgrade of software from one version to another, web customisation, and the analysis of survey data (WebCT, 2006c). Non-technical issues discussed during this conference included the identifying barriers to WebCT use (Fitzgerald, 2006), supportive learning via the use of virtual mentoring (Polisca and Hewitt, 2006), and the upgrading of training facilities for WebCT (Dowd, 2006). A number of presentations were published on the website, and these have been driving WebCT strategy in many educational institutions, including University E (University E WebCT administrator, personal communication, 2006).

Relatively few academic papers have been written specifically on WebCT, but one examined staff support of WebCT for an English University, University Z (Kent, 2003). There were some similarities between University Z and University E. Kent notes: “University Z had adopted WebCT as a tool underpinning the learning and teaching strategy and to support developments in e–Learning” (Kent, 2003, p.1). This was a similar policy to that adapted in University E. According to Kent, they had found this experience “useful”, but they also noted that “WebCT is only the tool” (Kent, 2003, p.9), citing the fact that correct course content was just as important. This has repercussions for academics and, again, illustrates the importance of the non–technical issues involved in this study.

There have been several other published studies in which WebCT has played a significant part. These have ranged from feasibility studies for its possible implementation (CIT, 2001, cited by Becta, 2003) to the establishing of technical guidelines on web accessibility (Fisher, 2005). A study has also been completed

examining the creation of a VLE for a Master of Education postgraduate course. One of its significant results was the fact that “All students benefited from some aspects of the VLE… When the VLE is seen as an add–on support to an existing course, then the advantages are clear” (Pilkington et al., 2000).

Summary

The promotion of learning in the educational context has been discussed, focussing on the constructivism versus behaviourism debate, and its relevance to VLEs.

A number of definitions for VLEs have been examined, and the definition that is used in the rest of this dissertation ties into the nature of learning in the educational context which has been explored.

The development of VLEs has been examined in the Higher Education sector, and has been tied in with Managed Learning Environments (MLEs). Many studies have reported on students’ usage of one VLE, as the studies which have compared them with each other are few and far between. The importance of non–technical issues has been shown in surveys of cross–campus VLE use. It is these issues that form the basis of the rest of this dissertation.

The best way to understand and illustrate these issues is by example. The following chapter reports on a case study undertaken in two departments of University E where many of these non–technical issues were raised.

Chapter Three – Case Study: WebCT development in two departments

This chapter reports on a case study examining WebCT modular course development in the higher education sector. In August 2005, the author was asked to design WebCT modular courses for various degrees in two departments of University E.

University and Departmental background

University E is a major university in the Scottish Higher Education sector. It has two geographically separate campuses (subsequently referred to as X and Y), which are separated by approximately four miles. All staff in Departments J and K are located on Campus Y, but all WebCT administration takes place on Campus X. Any correspondence is made via electronic mail.

Department J is a social science department based in University E, but is a joint collaboration with another nearby university (University L). There are 25 members of staff in this department, whose ICT abilities vary. About 15–20 modular courses had been developed before the author's arrival in subjects from Society to the Family. About 100 students studied in the department; all would have to access WebCT modules.

Department K is a major department in education, with about 70 staff. Before the author arrived, WebCT development had been sporadic. About ten modular courses in specialist areas such as Maths Recovery, Childhood Investigation and School

Experience had been developed in WebCT by a few interested members of staff. There were around 1300 students in the department; nearly 200 had to access WebCT as part of their course. This access was restricted to specific year groups and parts of degree courses.

There was a big learning curve for both the author and academics in the departments. The author had little or no experience of creating WebCT courses, and the academics had never had modular courses created for them.

WebCT constraints – modular issues and training

The author had to first find out some constraints of University E's WebCT implementation before consulting with the departments. Investigation revealed that in WebCT Campus Edition 4.1 (their current version), only a modular class structure could be created. A degree course could not have WebCT representation itself. Thus, if a degree course had ten classes associated with it, there would be ten different modular class areas provided in WebCT.

Importantly, when modular courses were created by WebCT administration, they were created as blank areas. Staff had to create a course structure, post content and subsequently maintain it – they mounted the courses themselves. There was no structure to course development.

University E staff involved with WebCT were offered tuition in both technical and non-technical areas. Half day sessions were run by the ICT training department which introduced users to the rudiments of WebCT. The questionnaire indicated 48% of academics in the two departments took this training (Appendix 2, p.16) There were also full day tutorials, run by an academic support department, which considered WebCT in relation to the academics' subject area. 58% of the academics had completed this tutorial (Appendix 2, p.13)

Both ICT training and academic support departments were based on Campus X. Technical sessions had taken place on Campus Y, unlike the academic support guidance. (WebCT administrator, personal communication, 2006). The lack of non-technical guidance on Campus X was further noted in the questionnaire: "Much of the acting support is confined to Campus Y; (support on Campus X) has been woefully inadequate" (Appendix 2, p.15). It was further noted that "The technical training needed to be matched with … (non-technical) … training about designing material appropriate for the web" (Department K) (Appendix 2, p.13). It seems then that those academics on Campus Y, including those in Departments J and K, had only received basic technical training in WebCT face–to–face. It may also have been very difficult for academics to travel to Campus X, due to their Campus Y commitments, to attend the academic support sessions face–to–face.

It is suggested then that Campus Y academics were disadvantaged, regardless of their ICT ability. Those who were ICT phobic could not use WebCT at all, even after they had attended relevant training. This was confirmed by the fact that after the training,

only 24% of any lecturers in either department were able to post their own lecture notes (Appendix 2, p.16).

Other trained academics, busy with their own commitments, could not give assistance. One Department K lecturer noted in the questionnaire: “A course with time to explore putting material to WebCT with help nearby to answer questions as the project proceeds (would be useful)” (Appendix 2, p.17). Note the underlining is the lecturer’s own emphasis. The issue of the lack of time was also commented on by lecturers interviewed in the North East of Scotland study who noted: “I have never had the time to really get down to designing a web page”; “What you get is a few people who take the time to find out about these things” (Barnes, 2006).

This issue could have been resolved by employing specialist staff, ensuring that training was available more frequently and at both campuses. If academic planning and management had been improved, then the issues such as the fear factor amongst academics and the general skill shortage in ICT would have been avoided.

The Department J template and experiences from course J1

Before the author arrived in department J, a template had already been developed as senior course directors felt that it was important to have a clear and consistent look and feel to each modular course that they presented. Its basic underlying structure comprised three areas: ‘Orientation’, ‘Learning Resources’ and ‘Communication’. Definitions of these terms had already been agreed:–

“Orientation comprised items that formed part of the module, but was not part of its content. These included timetables, the module descriptor, and assignment submission details.”

“Learning Resources specifically referred to items which were part of the actual module subject, such as reading lists, lecture notes, PowerPoint presentations and website links.”

“Communication was an independent area where message boards, chat facilities, and internal WebCT mail could be used.” (J1 course director, personal communication, 2005).

The headings and visual style were retained as staff were already comfortable with them. The template could also be rolled out quickly to the 12 modules in degree course J1.

The combination of the Orientation and Learning Resources sections would seem to liken the VLE course to that of the Wikipedia definition given earlier. Generally, this assertion was true. However, there were a number of features on WebCT which offered improved interactivity over traditional course materials. For example, a reading list, which would have originally appeared as part of course documentation, could now be linked directly with the University library so that students could see whether a set text was in stock. Set texts which were not in the library stock were then ordered by the library, benefiting students. Modular leader staff members were

pleasantly surprised when they found that the library was going to order texts for their course – something that they did not expect (J1 course director, personal communication, 2006). It would appear then, that the use of WebCT gave them greater awareness of the library facilities and interactions with it. This has been welcomed both by academic and library staff in many other institutions (Markland, 2003).

The Orientation section also offered improved timetable facilities. An electronic version of the timetable was made available on WebCT which could be altered in reaction to lecture and tutorial changes. The timetable also offered interactive elements – links could be made to the PowerPoint presentations in the Learning Resources section. Neither of these features was available on a traditional printed timetable. WebCT's interactive features were further employed as part of the Learning Resources area with the addition of video files, and web pages with slide shows.

The Communication area was an important addition. This course involved a considerable amount of group working, both in practice–based learning and seminar groups. Both sets of groups had private discussion forums on WebCT. They could then discuss subject–related matters between themselves outside of the scheduled group meeting times. This model is similar to that noted by Schutte seen previously (Schutte, 1996). The Course Directors were able to exploit the WebCT facility and to improve students' individual learning experiences by making them work together electronically.

This principle was fairly successful – most of the students contributed to the groups, and one lecturer noted that they found it “an excellent resource” (Appendix 2, p.12). This communication could be monitored by Course Directors to see how much people were participating (or otherwise) and how that interaction was seen to be working. Those not interacting in the groups or logging on to WebCT were noted by the Course Director, who could then take appropriate action. The Communication area also gave students and tutors the chance to privately chat and email (Pilkington et al., 2000.).

VLE courses are commonly associated with distance learning (Koskela et al., 2005). On course J1, apart from the students based on Campus Y, there were also ten students who were on campus M on the first year of the course (80 miles away). The author was involved in providing technical support to these students, even although he was based at Campus Y. As a result of this support, campus M students and staff were able to act independently of those on Campus Y. The experiment may well be considered a success as campus support has been increased to include all years.

A fourth area, Tutor’s Resources, was later added to the template, which exploited the WebCT facility of privately releasing material to students. This capability was used on some of the modules in course J1, and resulted in WebCT administrators being asked to add a number of lecturers to the course as students. Consequently, sensitive information such as both tutor and seminar notes were made available on WebCT, but only to those who required it. Assignment questions were also distributed to students via the selective release facility, as was a handbook for use in

an upcoming examination. It was considered then that WebCT was quickly becoming an integral part of the course in Department J – as one lecturer noted "…. we are now so reliant on it" (Personal communication, 2006).

WebCT course creation

The procedure in adapting a degree course for use on WebCT was straightforward. The author and course director would have a meeting and establish why and how WebCT was to be used in the course. WebCT administration were then asked to create these courses, adding both designers – people permitted to make course changes – and other staff members who required access. Student details would be brought in automatically from the Registry system MLE. The WebCT template was then applied so that each course had the same basic visual appearance.

Good WebCT practice recommended that a maximum of three designers should be used in any one degree course. Their roles were clearly defined.

The technical author ensured that each module had the correct structure, set up any forums, and posted any required files.

The module leader ensured the correctness of any material on WebCT. If the module leader felt comfortable, they could post the material. If not, they could send it to the technical author. However, the module leader was solely responsible for any errors made in the material. For example, when a lecturer re–edits a lecture for WebCT

publication, they might have to alter a PowerPoint presentation to remove notes from slides so that students do not see a lecturer's private reminders. Another occasion is when a lecture is being rewritten to simplify it for a different audience. The onus is on the module leader to ensure that any changes required for WebCT were completed by the module leader or related staff, and not by the appropriate technical author.

The course director's role was to ensure the smooth running of the course. The director concerned was appointed as a designer, even if not fully conversant in WebCT. For example, if a student transgressed the rules by posting inappropriately to a discussion forum, then the Course Director had the power to remove their WebCT access. Although all designers have this right, in this situation, the author would ask the Course Director to complete it under his guidance. This was to improve accountability should the issue be taken to higher disciplinary levels.

Further Issues

The author recognised that development did not go completely smoothly during this time. This was his first experience of creating a WebCT course, and a number of teething problems occurred. He had to apply many changes retrospectively during the development of other courses, such as the establishment of library reading lists. He had only found out about this facility through a chance conversation with a Department K lecturer who had already been in liaison with the library. Another example concerned the addition of separate Communication groups for Campus M, which was not applied until halfway through the year. Many changes were a result

of ignorance, more to do with a lack of proper training in the subject field, rather than any action of staff.

This inexperience meant that it was important to have a structure in place which could be understood by all parties – the author, course directors and heads of department. This was to maintain accountability. The author had to understand the structure before he could explain it to other people: – “It was not until I had an agreed structure for a WebCT course that I began to understand WebCT” (Author, personal communication with lecturer in Department K, 2006). Without either a proper structure or a proper understanding of requirements from academic staff, he would not have had requests from other course directors to complete their WebCT courses.

There was now evidence of increased use of WebCT. As more modules were added to the system (there were now 20), there was also a significant increase in usage. This could be evidenced by the number of queries that the author received about it from members of staff in Department J (Author, personal communication to Department J course director, 2006). This was confirmed by a lecturer in Department J, referring to student feedback “There were some initial start up problems but once students began to access it, it was useful” (Appendix 2, p.12). All students had also downloaded the examination handbook mentioned earlier, regardless of their ICT ability. They managed to complete this task, although access to this document had been made as straightforward as possible.

Moreover, having one modular course structure helped both staff and students. As one staff member observed “If I know where one thing is in one module, I know where it will be in another. That saves me time.” (Department J staff member, personal communication, 2005). WebCT was “positively received” by students (Appendix 2, p.12) and all 12 staff questioned found WebCT useful (Appendix 2, p.10). However, much of this feedback was both verbal and informal. The actual idea of having a VLE was welcomed by students, but it seems that there was nothing to suggest that the VLE’s facilities had improved students’ understanding of the subject.

The positive feedback would not have been possible had it not been for the co–operation between the author and other departments in the University. Part of the author’s remit as course developer was to establish suitable lines of communication between appropriate parties. As well as liaising with the library, discussion also took place with Video Streaming, Legal Services and WebCT administration to ensure the best use of the resource. Much discussion concerned WebCT technical issues. However, establishing links with other departments is not technical. These links were regarded as a key issue in Department J. As the responsibility for such links now lay with the technical author, academics were more comfortable that they no longer had to worry about the technical issues, a view shared by both course directors and WebCT administration staff: “The most valuable (technical support) was the support and encouragement of the (specialist support employed by the department), whose commitment to ensuring the smooth ‘fit’ and high quality of our site has been exemplary” (Department J)”.

This worry was justified for many lecturers, as WebCT was also connected to a number of other systems in the university, such as the student registration system. Access to WebCT would only be granted if a student was registered for a particular class. When students commented that they could not access WebCT, staff in Department J initially thought that this was a technical issue, when in fact it was due to the students' non–registration. In other words, the technical issue was masking a non–technical one.

This issue was then not the remit of the author, whose concern was only for technical issues. It was later confirmed that it was in fact departmental policy. One reason why this decision may well have been taken was due to the fear factor amongst academics in the department. It had already been decided that the technical author and department were in partnership – the author dealt solely with the technical side, and the academics dealt with subject issues. (Author to J1 course director, personal communication, 2005) Academics also admitted to their own ignorance. In Department J, only 33% of lecturers were able to post their own lecturer notes. There may have been a number of reasons for this – some did not wish to do so, saying that they would not have "given WebCT a second glance" without intervention from the author (Department J lecturer, personal communication, 2005). Others were worried about their lack of technical skills, as was noted "very importantly for me (technical support) to be sympathetic to my lack of technical skills and offering to undertake WebCT tasks on my behalf" (Appendix 2, p.15). The author has, on more than one occasion in Department J, had one–to–one sessions with module leaders lasting some hours taking them through every stage of module preparation. It would appear that

these sessions had some success: “Every time I needed to ask a question or have a difficulty sorted, the (support employed by department) made themselves available and did what was necessary (i.e. explained or solved the problem)” (Appendix 2, p.15). ” It would seem that there is a reliance on specialist staff in the department, and this would show that there is a continuing prevalent fear factor amongst lecturers (Hammond, cited by Haven and Botterill, 2003).

Module design

In course J1, there were structural differences in the individual modular courses. Although the template had made available a discussion forum capacity, a file repository, and module descriptors for academics, the choice to use such facilities was solely for the module leaders. For example, the page for useful websites was used heavily by the law course – several links to individual pieces of legislation were required. By comparison, no websites were requested for a course about the family.

Unsurprisingly, there was individuality about how particular modules would be implemented in WebCT, despite the use of the template. Just as every student has completely different learning experiences when they learn, no two lecturers are ever going to present identical material in the same way. The fact that many modules can be fitted into the same WebCT structure is evidence of the structure being fit for its purpose, and illustrates that lecturers are very comfortable with that structure.

Thus, no two modules finished up exactly the same, as module leaders were free to choose the academic style that suited them. This style, as well as manifesting itself inherently in the WebCT structure, was also noticeable in the material which was submitted for publication. For example, tutor notes were submitted in the family module, but only in that module. Similarly, several modules had Practice–based Learning and seminar groups, but only some submitted handouts for them.

The success of the design of degree course J1 meant that other Course Directors in that department also asked for similar representation. Degrees J2 and J3 both received modular courses which were visually identical to course J1, but with altered branding. The success of WebCT in Department J has led to the department running a special module for an exchange visit with a university in the United States of America (J1 course director, personal communication, 2006). Internally, success was also noted by the Department J course director, who observed that WebCT was becoming second nature to the students towards the end of the course (Department J1 course director, personal communication, 2006).

Department K – initial differences

Department K had also expressed an interest in using WebCT for degree course K1. Discussion with staff revealed they wanted a similar, but not identical, structure to course J1. They wanted a slightly different visual appearance, as they felt that the icons were inappropriate, as well as different course branding. These requests were straightforward to implement. The specific categories that were requested were also

different from Department J in that they asked for ‘Administration’, ‘Module Content’ and ‘Communication’, rather than ‘Orientation’, ‘Learning Resources’ and ‘Communication’. However, their meaning was basically the same. Therefore, in terms of the non–technical issues involved in the WebCT development, there were many areas of common ground.

The eight members of the course team responsible for degree K1 were pleased with the look and feel that had been created for the course. However, it gave rise to an issue amongst members of staff who had previously created courses in WebCT – a fear factor – but this was not a fear of using WebCT itself. Rather, these academics were concerned that the courses that they had already designed would be cut to pieces by the author as a result of a different look being forced upon their courses. They felt this would have the effect of destroying their individual work.

The fear factor existed in Department K. One lecturer, who already had one modular course as part of degree K2, refused to have this particular course switched over to the new generic look, despite having been involved in the design of the same generic look and encouraging it at the Course Team meeting. She felt that the generic look would have ruined the courses in which she was actively involved. Discretion is required when discussing these sorts of issues.

Other members of staff who were part of the course team then requested a similar look and feel for other courses in Department K. These demands echoed the views of those in department J, in that staff members, particularly those with limited ICT

ability, were comfortable with the visual identity of the original K1 degree courses. Apart from branding changes, a specific request was made for everything else to remain unaltered. There had also been positive feedback from students as they found the technology equally easy to use, as was noted by a lecturer: “Students seem to use it quite a bit and find it helpful” (Appendix 2, p.12).

While there were many similarities between the WebCT developments in Departments J and K, there were many differences. The relative pace of development in Department K had been slightly slower, mainly because Department K did not have a specifically designed template before the involvement of the author. When K1 requested a specific WebCT appearance, a template had to be agreed with the course team before it could be used in any degree module.

A second reason concerned the nature of the courses. Degree course K2 consisted of 18 modules. When the initial request for WebCT representation was made, it was requested that all modules should have such representation, and this was done. However, it became clear that many of the modules were in fact dormant in that the modules had either already been taught, or were not going to be taught meantime. Further, in some instances, the module leaders may have been made aware that the representation was available, but a deliberate decision was then made by them to have just the basic structure in situ until they were absolutely ready to place course material on WebCT. This happened in degree course K1, where the course director said:

“We want to have one pilot module for WebCT but the structure for all of them should be there for the next academic year” (K1 course director, personal communication, 2005).

This concept was unlike the Department J example where modules were only added when the content was ready.

The pilot nature of the courses has been reflected in a number of degree courses in Department J. However, the fact that the two departments were being developed simultaneously has meant that as the year progressed, the pilot nature of the project became less and less important. For example, when K3’s modules were added to the system, the author had written of the order of 80 modules all told – by which time, the Department K WebCT template had been well established.

A third reason reflected the amount of importance which members of the departments placed on the use of WebCT. Before the author arrived, department J had agreed to use WebCT as the sole departmental VLE. They had further agreed a clear structure on its use. WebCT was promoted in the department - all lecturers noted this in the questionnaire (Appendix 2, p.10), and 56% of lecturers considered that it had been promoted properly and effectively (Appendix 2, p.10). Futher, all lecturers in Department J found WebCT valuable rather than being either useful or of little help. (Appendix 2, p.10) Consequently, all staff were familiar with the concepts of WebCT, and were actively encouraged to use it.

This was in stark contrast to Department K. There was no agreed strategy on the use of WebCT in the department. This was partly because other VLEs were already in use in the department, such as FirstClass, SPIDER, and PebblePad. This may explain why only 28% of lecturers in Department K said that WebCT had been promoted effectively (Appendix 2, p.10). Further, when the Department K lecturers were asked if WebCT was valuable, only 31% said it was, with 56% noting it useful and 13% saying it was of little help (Appendix 2, p.11). Staff were less interested in its use. As a result, little or no use was made of it in the department as a whole.

There were also distinct differences in the way that these modules were being used. Department J used a number of different tools in WebCT, principally lecture notes, presentations, timetables, assignments, calendars and discussion forums. Department K did not have such usage and, to this end, tended to use the WebCT to simply transmit latest news. This was due to the differing nature of the courses. Department J had courses which ran during the daytime, while some of Department K's courses ran one evening per week. Moreover, while Department J had several discussion forums such as Practice–based Learning and seminar groups, that facility was not available in the Department K courses. Only in a couple of pilot modules were presentations and discussion groups used. All of this was about to change.

Department K – major developments

In University E, Department K is home to two of the biggest courses on campus Y, K4 and K5. Approximately 450 students are registered on Course K4, and about 700

on course K5. The former has had other VLE representation. The commercial product First Class has been used for over ten years for students taking K4 and is well established. It was mainly used for discussion forums and these were very popular.

However, the K4 course team had decided to use the internal university VLE SPIDER for its evaluations in late 2004. The initial idea had been to carry out evaluations via a specially designed website, and a feasibility study completed by the author had shown that such a system could work. However, technical considerations meant that it was not an option. It was discovered that the SPIDER system offered the same features as the original website, and more besides. Furthermore, SPIDER was also being used in another department, L, on campus Y. The decision was therefore taken to proceed with evaluations via the SPIDER VLE. Note that this decision was taken before the decision to push WebCT as the VLE medium had been taken.

Having seen the pilot result evaluation in course K4, the K5 course team were also comfortable with the visual appearance of SPIDER. They also found SPIDER's user interface to be more intuitive than WebCT, and therefore decided to implement SPIDER as their chosen VLE.

However, a policy decision had been taken at University E level which implied that courses should be implementing WebCT as the primary VLE. The rationale behind this decision was that WebCT had been bought in as a University–wide VLE as part

of a five–year plan. It had been announced that SPIDER support would continue, but that its remit would remain with its initial audience (Science). Given the fact that course K5 is one of the biggest courses in the University, and its remit is in the field of Education, it is therefore unsurprising that the course team was clearly advised not to use SPIDER, but to use WebCT instead.

This implementation was therefore to come under the author's remit. With no less than 27 modules requested for this course, of a similar size to those in the other Department K courses, it presented a number of logistical difficulties both to the author and the course team. The sheer size of the course meant that it was difficult to agree a template with the very much larger course team. There was also the question of staff access. The size of the department meant that all 70 members of staff in Department K would require access to all modules. In many cases, there were multiple module leaders, and there was a danger that the number of designers could become prohibitive. If this happened, control of the course would have broken down. The issue had to be resolved via discussion with WebCT administrators, and these discussions had a bearing on all K5 modules.

After the modules were created, the decision as to what appeared on individual modules fell to the module leaders. There was much less interest in WebCT for course K5 than there was in any other course under the author's remit.

This was partly because K5 had only requested one facility in WebCT – online evaluation. The course team felt that it would save both time and resources.

Currently all of the evaluations were being completed by pen and paper. Their analysis was a long and time–consuming process, especially as the number of evaluations increased. By comparison, the evaluation could be calculated automatically via WebCT, saving both paper costs and lecturers' time.

This online evaluation was implemented across several different modules, and, from a technical point of view, ran successfully. However, student response rates were very low (less than 5% responded to one evaluation), despite repeated communication to students, both verbally and by electronic means. The course team had to agree that the results were unreliable – the student sample size was not large enough to be considered representative.

There are a number of reasons why this initial evaluation did not give positive results. The questionnaire results give a number of possible reasons: "Many students are apprehensive about its use and difficulty in accessing it. Others are excited about its potential but less happy with inconsistency between tutors in its use" (Appendix 2, p.12). Further, the tutors seemed not to use WebCT: "I did not work with any students (on WebCT)" (Appendix 2, p.12), and neither seemingly did many part-time students who "appear to be more reluctant to log on and often report difficulties" (Appendix 2, p.12).

In course K5, the VLE was used solely as a stand–alone evaluation tool. If students had been encouraged to use the WebCT facilities and been forced to use it as part of the course, then there might have been a greater response rate. However, it has been

shown that: “students will rarely participate in (VLE) … collaboration simply because a facility for this has been provided” (Beasley and Smyth, 2004).

There was also evidence that staff were also not using the VLE. The Course Director had asked for 28 modules to be created, and this was done. On the basis of that request, all 28 module leaders were expected to provide some sort of material, given the fact that there was no agreed structure for any of these courses. However, just nine of the 28 module leaders actually asked for any representation, and those who did asked for online evaluation. It would appear that the reasons given for the unpopularity of WebCT evaluations ranged from the fact that staff were either not interested in using WebCT, or that they were, but were scared to use it. A major factor may also well have been that the technical training was given at the wrong time before it was decided to fully use WebCT: “A lot of the training came early – before WebCT was used comprehensively”; “It was about 18 months ago and at that time, I didn’t really need to use WebCT much” (Appendix 2, p.13).

The course team had also expressed the view that SPIDER was a better interface than WebCT (WebCT course team, personal communication, 2006). Note that the staff members did not say that the VLE offered no advantage over the traditional methods, particularly with respect to online evaluation. They could all understand the advantages that a VLE had to offer. The course team were simply uncomfortable with using WebCT as that VLE.

Since both departments J and K were on Campus Y, the training issues that were seen in Department J are also pertinent here. In other words, the lack of facilities meant that members of staff were not comfortable in using WebCT. The questionnaire illustrates that whereas all staff could outline the advantages of WebCT to students in Department J, this was not the case in Department K (less than half could do this) (Appendix 2, p.14). It was felt that the author would have had to give several one–to–one sessions to individual tutors on this course, which, in the view of the course team, would have been very time–consuming (K5 course team member, personal communication, 2006), and according to one lecturer in the questionnaire: "A strong personal interest and commitment was needed to communicate to other staff – far less students" (Appendix 2, p.14) (the emphasis is the lecturer's, not the author's).

The K5 course team may also have had to consider a number of factors when making their decision on WebCT, and these may have included the following. Firstly, the staff had a number of additional VLE projects in situ, including one for Personal Development Planning. The question of staff access also may have remained a live area of debate. With doubt as to exactly how to handle this situation at both the WebCT administration and the K5 course team levels, it is possibly unclear how the K5 course team would have been able to encourage students effectively to use WebCT – if indeed they could have done so. Thirdly, the nature of the course meant that many important documents needed to be accessed by several hundred school partners as well as staff and students. Since WebCT only allowed access to staff and students, it was considered that WebCT was not a suitable file repository for these

documents. The course team considered it sensible, therefore, to publish a website instead.

Another reason why the evaluation was not a success cannot solely be put down to the course team. When the policy decision was taken by University E to encourage the use of WebCT on course K5, this went against the initial decision of the K5 course team. The signal to use WebCT as the preferred VLE made the K5 course team less comfortable than they would have been if SPIDER had been used.

The author has now been involved in WebCT development in Departments J and K for some months, and there are now ten degree courses across the two departments which have some form of WebCT representation associated with them. This represents over 100 different modules. It is important to note, however, that this is purely a snapshot of the current situation. The nature of education means that degree courses will naturally change. Such course changes can be as a result of degree revalidation, courses being updated to include new texts, or simply current materials becoming outdated. In other words, modular courses change with time. Consequently, the degree courses change with time, and the WebCT representation should also change likewise. Further, as WebCT improves its software product, there will be changes in the way that WebCT is managed within the University. However, these changes, with time, will also affect the Departments.

Chapter Four: Discussion and Conclusions

The case study has raised a number of non–technical issues, such as:

- Training
- Staff liaison
- Fear factor amongst academics
- The consequences of online evaluation.

Other issues can also be raised such as:

- Communication in all its forms, including training
- How VLE usage promotes learning in the university context, and its connection with the meanings given in the Literature Review.

All of these will now be discussed further. Many of these non-technical issues go beyond just one institution and one subject area. They are “cross-cutting and relevant across all the disciplines” (Timmis et al., 2004, p.17). They are particularly pertinent to Scottish institutions as there is a pressing need for a raising of awareness of VLEs, clear policy communication and training (Price, 2006).

Communication ties the first issues in the list together, whether it is written, verbal, or by electronic means, and all of these have been explored. It has taken place between academic parties at all levels, and between departments in educational institutions.

The communication issue is important from the moment an educational institution decides that it requires a VLE, and the name by which it will be identified throughout the institution. It could be called such things as a virtual learning environment, virtual campus or interactive web environment (Becta, 2003; SPIDER, 2006; Virtual School, 2006; Pilkington et al., 2000). The choice is for the institution to make. However, such a decision can make the whole educational VLE picture even more complicated, a situation which everyone in the education sector already finds confusing (Becta, 2003; Erskine, 2003).

This choice can also have an effect on how the VLE is subsequently used. For example, SPIDER referred to itself as an "interactive web environment" – significantly, the word "learning" was absent from the definition. Despite it having all the features of a VLE, the more relaxed feel of SPIDER meant that, in some quarters of University E, it was considered that it should not be developed over the whole university. This could be evidenced by the VLE being called "SPIDER–Science" on the overall University E web page, despite the fact that the name had never been used (SPIDER developer, personal communication, 2006).

For brevity, and to avoid confusion with any other terms, VLE will be used throughout the rest of the discussion.

The distribution of the VLE would be another important decision for the institution. The choices open to the institution are to have one overall VLE or to have different VLEs amongst its faculties or subjects – there are examples of specialist VLEs in

Higher Education in Medicine and Science. Further, the institution should consider whether the VLE's facilities are pertinent to its needs, and what it actually requires. Another consideration is whether the VLE can be linked into any MLEs already in situ. This happened extensively in University E when links were made to the Registry system. In linking between these systems, institutions have to understand fully the differences between a VLE and an MLE and should understand the academic standard definitions (JISC, 2004).

Once this has all been considered, it is also necessary to consider its visual appearance. This is important as the look of the VLE must be designed which will be comfortable to its users. The look may be comfortable to one department, but it may not be for another, and this was the case in Departments J and K. Department J's courses encouraged a common branding, and the use of the template ensured it. By comparison, Department K lecturers specifically wanted all the courses to look different, preferring to post the specific facilities available on the course.

This look may include appropriate localised branding. The use of such branding can encourage a sense of pride in the VLE and thus encourage additional use of it, as happened in Department J. However, a good VLE is not only visually attractive, but its interface must be intuitive enough so that any user, regardless of their ICT ability, can understand it. The author noted that the initial VLE design was far from intuitive when he was designing courses (Author, personal communication to K1 course director, 2005), and similar issues had been encountered by academics in both departments (Department K lecturer, personal communication, 2006). This issue

should be of concern to VLE developers and academic institutions. It is surprising that this affects WebCT, a “market leader” (Chin, 2002).

The lack of an intuitive interface also affects institutions. If academics found the interface difficult, then there was either not enough training on it or the wrong sort available. There is already an acknowledged ICT skill shortage amongst academics (Hammond, cited by Haven and Botterill, 2003), and equally, a shortage in training (Eley and Eley, cited by Haven and Botterill, 2003). Appropriate training should be provided for both technical staff and academics. Technical staff should receive training on new servers and be aware of the issues such as potential upgrades and software changes (Dowd, 2006). Guidelines should also be created on issues such as web accessibility (Fisher, 2005).

In University E, Campus Y academic staff members felt disadvantaged due to non–technical training not being available. In general, academics should receive training on how the VLE is appropriate to their needs. In University E, the academics’ needs include technical ability, attitudes towards ICT or VLEs, and ease of access. Financial implications may also have to be considered. Further, the pace of such training should be monitored so that the fear factor prevalent in academics is directly addressed (Forsyth et al., as cited by Haven and Botterill, 2003). Thus, the training should not only deal with the purely technical side of the VLE (for example, logging on), but it should also be there to change attitudes both towards VLEs and ICT in general. Academics come to ICT training with often deep set attitudes towards computers. Some of them are afraid of computers; others have not been able to put

the time into learning ICT concepts. Others take the view that ICT is a waste of time. These issues, coupled with the fact that on some occasions academics go grudgingly to attend these training sessions, mean that the part of the remit of any VLE training, or indeed any ICT training, should be for academics to feel comfortable about the concepts that are being presented. This has not always been the case in every educational institution. As one academic observed: "I went along to this technical training with many questions about VLEs. I left with many more…" (Department J lecturer, personal communication, 2006).

It is therefore important that the academic benefits of a VLE are made clear to them. These include improved communication facilities (through the discussion forums), electronic timetables (more reactive to change), and a file repository for storing PowerPoint presentations and readings. These academic benefits should be more important than any technical side of training they receive. Thus, unless those concepts are made explicitly clear to them, and they are completely convinced of the teaching and learning possibilities that a VLE provides, there would be no point in presenting any technical training – for example, how to log in to it.

If academics are unable to attend any face–to–face training, then materials from such instruction should be provided quickly and easily by the most convenient means possible, such as paper copy or electronic mail. Institutions may also decide to include a training module especially for VLEs on the VLE itself, which can be self–paced. There should also be relevant means of support after the initial training is completed, which should be quickly and easily available. This support should be in

as many forms as is required – face to face meetings, electronic mail and telephone support. Further, all aspects of support should be included – not just on technical issues, but on academic issues as well.

In University E, the combination of lack of academic training and reduced technical training at Campus Y meant that staff were not really trained at all. This can be evidenced by the fact that less than half of all staff admitted to having had such training in the questionnaire, and that, additionally, any support (whether it be technical or otherwise) was not primarily ascribed to members of staff associated directly with WebCT. It is thus not surprising that any use of WebCT required the use of additional staff, such as the author, to make them comfortable with its use. Any requests made by Campus X to Departments J and K staff as to WebCT use before the author's arrival could have made academics more fearful of the technology – a point later noted by academics.

For this reason, it is recommended that staff supporting VLEs should not consider themselves to be purely involved with technical support. There should be other locally based staff who can provide the link between the technical side of the VLE and the needs of the department from day to day. These are people who bridge the gap between VLE technicians and the academics. These staff members also need other communication–based skills, such as diplomacy. As part of their role, they may sometimes have to speak to VLE administration staff, academics, and students. This must be done in an appropriate manner. They also have to ensure that delicate issues are handled with care – for example, academics refusing to switch to an agreed

generic look – as they are required to balance the needs of academics with the constraints placed on them by the institution. Such constraints can be technical – for example, whether people are allowed to log in to the system – or non–technical. An example in University E is the policy decision not to allow continuously assessed assignments electronically marked through WebCT to be counted towards final examination board marks, even although it is permissible to mark such assignments in WebCT.

It is also important to realise that these members of staff are vital to the running of the department. Designing a VLE is not just about the initial creation of modules for the sake of it – it is about enhancing teaching and learning. This is a central long–term issue which will never go away. The support has to be reactive to the needs of the department and the VLE, as they both constantly change, and that support always has to be there to maintain that remit.

This last issue is particularly important for academics and support staff alike. The upgrading of technology can mean several changes for the VLE. These technical changes will have a bearing on pedagogical and social factors, which are more of interest to academics. The training issue is important again, as it is vital that academics are kept informed of developments. Equally, the training must also change so that it reflects the fact that the needs of academics remain paramount. The technical changes must not take over the training to the point that academics lose sight of the educational value of the VLE. If this were to happen, then there is the

strong possibility that the initial fear factor resisting VLE use would return (Forsyth et al., op cit.), and the point of the initial training would be lost.

There is thus a need to ensure that all changes are carried out efficiently and any integration with new technology is done smoothly. It is important for VLE and MLE issues to be kept separate for clarity (JISC, 2004). The smooth integration will ensure that academics are comfortable with any design changes that occur. Any visual identity changes must be explained in simple terms so that they can understand why particular changes are being made to their course. Again, the comfort factor may be lost if this does not happen. If they have to be retrained, which, given the rapid nature of technological change is not an impossibility, then this has to happen with the focus being retained on the non–technical issues. Regardless of the training involved, academics have to be kept fully informed of developments in language that is understandable to them.

Academics often find themselves in the position of having to introduce students to a VLE, and such introductory sessions took place in both departments J and K. Their remit is important to the success of the VLE (Tsinakos, 2004). There was basic instruction on how to log in to the VLE (which is easy enough). In University E, students became comfortable in a short period of time with the technical aspects of the VLE (Department K lecturer, personal communication, 2006). However, instruction is also required from a non–technical point of view. This should consider the proper use of discussion forums, the correct etiquette on said forums, and the appropriate general use of the VLE in relation to the subject under discussion.

Academics in both departments thought that this training was necessary (from the questionnaire) and this view has been reinforced by researchers (Beasley and Smyth, 2004, p.43). Therefore, if the training received by an academic is not satisfactory, this means that the academic may either mislead or give incorrect information to the students. If the fear factor remains with the academic after training, then this may be communicated through to the students and the training that the students receive may suffer as a result. This again puts the emphasis on ensuring that the training the institution is giving to academics is correct and appropriate – and this is an issue for institution managers.

Equally important to the training is the promotion of the VLE as a learning tool. In Scotland, this promotion is seemingly not working as it should (Price, 2006). The practical definition which considers the VLE primarily as a course administration tool does not help that cause (Wikipedia, 2006). Moreover, simply placing files in a repository does not directly promote learning. Thus, both the Administration and Learning Resources areas are not really promoting learning. The Communication area is of most interest in this field – particularly, discussion forums. In WebCT, and indeed, in any VLE, these would reflect the paradigm of social constructivism, in a similar way to Moodle (Dougiamas and Taylor, 2002).

This social constructivist view, as noted both by Rogoff (1999, p.69) and also Tom Reeves (1997), and which is implied in Schutte (1996), appears to be reflected in Department J, which is a social science department. In each of their modules, the discussion forums were used extensively for group working – both practice–based

learning and seminar groups had their own private areas. Many tasks had to be completed through group working in the courses, and WebCT assisted in that task. With the balance of power shifting towards constructivism in the ongoing behaviourism–constructivism debate, the social constructivism paradigm fitted in well to the department's philosophy. This could imply that WebCT was extensively promoted throughout all the department's courses. This last point may also be borne out from the questionnaire – more lecturers in this department said that WebCT was promoted effectively here rather than in Department K (Appendix 2, p.10).

By comparison, those in Department K – the educational department – had courses which reflected individual practitioner's work. Although there was some group working on many of the Department K courses, a lot of the courses were based on individual experience. The paradigm being adopted was more person–centred, towards the Fox view of constructivism (Fox, 2001), and thus more behaviourist in nature (Graham, 2002). As such then, the discussion forums were of little use to the Department K staff, and thus the VLE was purely used as a course administration tool. If the online evaluation of modules was simply considered as an academic time saver, then this in its own right may not have "enhanced the student's learning experience" (Whatis, 2006). Thus, as this use does not fit in with the Becta (2004) definition, this raises the question of whether the VLE should have been used in Department K at all.

Further, it is important to note that at each level, appropriate feedback should be sought to establish its efficiency of any training provided. Similarly, the use of the

VLE should also be evaluated. Evaluations should be carried out to ensure that the VLE is used to its maximum potential – not just purely as a file repository or administration tool (Wikipedia, op cit.). These can take place at all levels and could even take place on the VLE itself, as per many of the student modules in University E. Such evaluations should be completed by already reliable methods – and these may not necessarily use the VLE (Graff, 2003, p.27). However, evaluation goes far wider than just evaluating students' thoughts as to the modular subject that has been studied. It should use appropriate tools, such as Kolb's Learning Style Inventory (Cross and Faulkner, 2006) so that students can be given the opportunity to learn, as shown in philosophy modules (Gibbs, 1999, cited by Becta, 2003).

The VLE itself has to be evaluated from many different angles – it is more than just "a tool" (Kent, 2003, p.9). If students have had to use the VLE as part of their course, then that should be evaluated. Academic training should also be placed under scrutiny. They should have the right to comment on any training or support that they have received from the VLE team. If there are any problems in the training, any barriers can be identified and removed, such as those cited by Fitzgerald (2006). The institution should also be internally evaluating the efficiency of the VLE. For example, the ratio of used modules to created ones could be calculated. This is not just an exercise to say that VLE support is being implemented. It is a chance to examine whether the VLE package has been financially viable, and whether the time and investment put into it has been justified, as per other Education courses (Pilkington et al., 2000).

It is such evaluations that can lead to improved support for VLEs in educational institutions. For a VLE to be successful, as with any other ICT software package, it must work for the users when introduced, and react to change as per the users' needs and wants. The concepts and rationale of the package have to be introduced appropriately, and this support has to be maintained. Improved support leads to training staff – be it technical or non–technical – improving their understanding of needs of both students and academics. Both institutional management and support staff have to be aware that it is their needs that are vital to the success of a VLE in their educational sector, and have to react accordingly.

The ultimate reward of recognising these needs and improving communication to students and academics in the area of VLE development is the improvement of teaching and learning in Higher Education in Scotland and beyond, a reward which everyone would welcome.

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Appendices

Appendix 1 – Questionnaire

I am a University of Strathclyde Master of Education student, and, as part of my investigation, am questioning academic staff on issues relating to the support of WebCT 4 (the Virtual Learning Environment used up to June 2006) in your department. I would be grateful if you could complete the attached questionnaire and return it to me.

The first section of the questionnaire looks at some general issues relating to WebCT.

The second section examines the training and support given to departments on non-technical issues raised in the use of WebCT. Such non-technical issues can include:

- the training provision required to implement the VLE
- the application of the subject area in the context of the VLE
- application of other university systems tied into the VLE (e.g. Registry).

The final section considers the technical training and support given to departments on technical issues involved in WebCT course creation. Such technical issues could include:

- the act of logging into WebCT
- the act of uploading files to WebCT
- the creation and maintenance of discussion groups in the system.

With regard to multiple choice questions, please tick your answer(s). If you wish to make any additional comments on any of the subjects raised, please attach an additional sheet.

Thank you for your time.

Michael Clarkson

General Issues

Was the use of WebCT promoted by your department?

Yes ☐ No ☐

If it was promoted, do you consider it was promoted effectively and convincingly?

Were you encouraged to be involved in any personal development in WebCT?

Yes ☐ No ☐

Have you found the use of WebCT in the department:

Valuable? ☐ Useful? ☐ Of little help? ☐

What feedback have you received from students about WebCT?

Have you been involved in any evaluation of the implementation of WebCT in your department?

Yes ☐ No ☐

If so, please give details.

Non-technical Training

Did you receive any training on non-technical issues relating to WebCT?

Yes ☐ No ☐

Which term best describes this training?

Simple ☐ Moderate ☐ Difficult ☐

How comprehensible did you find this training?

Very ☐ Fairly ☐ Not at all ☐

How confident were you with using WebCT after this training?

Very confident ☐ Confident ☐ Not at all confident ☐

Was this training appropriate or relevant to your own needs?

If you felt that the training was not appropriate or relevant, how might it have been improved?

What other resources would have been useful?

Following this training, were you able to communicate the advantages of WebCT to your students?

Non-technical Support

How much support did you receive with respect to each of the non-technical issues relating to WebCT?

- Training provision

None ☐ Some ☐ A lot ☐

- Application of your subject area to VLE usage

None ☐ Some ☐ A lot ☐

- How other University systems tied into the VLE (e.g. Registry)

None ☐ Some ☐ A lot ☐

From whom did you receive this support? (Please tick all that apply.)

IT Services ☐ Learning Services ☐

University VLE staff ☐ Someone else ☐

How was this support provided? (Please tick all that apply.)

Face-to-face meetings ☐ Telephone ☐ Email ☐

How valuable and appropriate was this support to you?

Technical Training

Did you receive any training on technical issues relating to WebCT?

Yes ☐ No ☐

Which term best describes this training?

Simple ☐ Moderate ☐ Difficult ☐

How comprehensible did you find this training?

Very ☐ Fairly ☐ Not at all ☐

How confident were you with using WebCT after this training?

Very confident ☐ Confident ☐ Not at all confident ☐

After this training, did you post your own lecture notes to WebCT?

Yes ☐ No ☐

If you did not, what further assistance did/would you welcome to develop your confidence?

Following this training, were you confident enough to help your students use WebCT?

Technical Issues

How much support did you receive with respect to the technical issues relating to WebCT?

- Logging into WebCT

None ☐ Some ☐ A lot ☐

- Uploading files onto WebCT

None ☐ Some ☐ A lot ☐

- Creation and maintenance of discussion groups

None ☐ Some ☐ A lot ☐

From whom did you receive this support?

IT Services ☐ Learning Services ☐

University VLE staff ☐ Someone else ☐

Was this technical support enough for your needs?

Yes ☐ No ☐

If not, how did you overcome this?

Appendix 2 – Questionnaire Results

Statistical Questionnaire Results

TOTAL QUESTIONNAIRES LODGED 69
TOTAL RESPONDENTS 33 (4 unable to answer) – thus 29 actual
Total response rate: 33/69 (48%)
Response rate Department J: 12/19 (65%); in Department K: 17/50 (34%)

Four respondents (one in Department J, three in Department K said that they were unable to answer any questions), but replied. Most answered all questions as shown below.

In this questionnaire, the question is followed by the total number of respondents; the number in Department J is followed by the number in Department K. JK means both J and K together.

General Issues

Was the use of WebCT promoted by your department? (29) – (12,17)

JK	YES 29	100%	NO 0	0%
J	YES 12	100%	NO 0	0%
K	YES 17	100%	NO 0	0%

If it was promoted, do you consider it was promoted effectively and convincingly? (23) – (9, 14)

JK	YES 9	39%	NO 9	39%	Unsure 5	22%
J	YES 5	56%	NO 2	22%	Unsure 2	22%
K	YES 4	28%	NO 7	50%	Unsure 3	22%

Department J

- "Yes – although more training could have been provided and a more corporate approach adopted."
- "Our department could have done more to support and help staff to get the best from WebCT"
- "Yes, although pressures on staff time for training and development impacted on this"
- "I was one of two keen staff with experience of FirstClass (AUTHOR'S NOTE: another VLE); the department as a whole was tolerant rather than keen."
- "No"
- "Reasonably; but I had (had) relatively little teaching and therefore (had) been less involved"
- "Yes, the Department is committed to rolling WebCT across the programmes"
- "Yes"
- "Yes"

Department K

- "The thrust came from courses in the Department who wished to use it"
- "At course level, yes, but not so much at departmental level"
- "Yes"
- "Yes"
- "Yes"
- "In some regards, I think my reservations are more likely to be related to my own abilities (or lack of)"
- "Perhaps more demonstration of how it might be used effectively would have encouraged more extensive use"
- "Not really – different courses use different VLEs – FirstClass, Pebblepad"
- "No"
- "No"
- "No"
- "No – (it) was not a strategic decision to use a preferred VLE or have consistency in what material should be posted (between modules and courses)"
- "Partly – students need more support"
- "I think it was convincing, but, as with most technological innovations, anxiety raising"

Were you encouraged to be involved in any personal development in WebCT? (29) – (12,17)

JK	YES 19	66%	NO 10	34%
J	YES 7	58%	NO 5	32%
K	YES 12	71%	NO 7	29%

Have you found the use of WebCT in the department valuable, useful, or of little help? (28) – (12,16)

JK	Val 17	61%	Use 9	32%	Little 2	7%
J	Val 12	100%	Use 0	0%	Little 0	0%
K	Val 5	31%	Use 9	56%	Little 2	13%

Department K

- "Too early to say"
- "For posting lectures but otherwise no"

What feedback have you received from students about WebCT?

Department J

- "They find it an excellent resource"
- "A platform to share ideas; communicate with others, engage in debate/discussion about a particular subject, but at times technological issues do hamper the effort."
- "Most seem to like it - IF it is well supported by staff"
- "Well received"
- "Some students found it useful; some did not"
- "Varied – it depends to a large extent to their degree of comfort with computers. More structured classes might help".
- "Mostly positive once they got used to it. It is frustrating for them when this system goes down as we are now so reliant on it"
- "Mostly positive, though they sometimes can be frustrated when they cannot access it (due to registry issues), or some can be intimidated when first learning it".
- "Generally very positive but it was tempered according to ease of access".
- "There were some initial start up problems but once students began to access it, it was useful"

Department K

- "Students seem to use it quite a bit and find it helpful"
- "Some students have had difficulty accessing the VLE off campus"
- "Most have not used it, one or two have tried – still early days"
- "I did not work with any students"
- "Varied – some took quickly to it, others were insufficiently prepared"
- "Students have complained about problems encountered with the migration to v6" (NOTE: this comment must be disregarded as the questionnaire was specifically about v4)
- "Some have had difficulty accessing it – especially some first year students"
- "Mixed. Some want training. Others are willing to find their way"
- "Third year have complained that they have had no training"
- "Mixed. Many students are apprehensive about its use and difficulty in accessing it. Others are excited about its potential but less happy with inconsistency between tutors in its use"
- "Some have difficulty accessing it"
- "Part-time students appear to be more reluctant to log on and often report difficulties"

Have you been involved in any evaluation of the implementation of WebCT in your department? (29)

Department J: "Our department requires to do this."
Department K: "Two modules have been evaluated"
Only two people said yes – one in both Departments. Both were Course Directors.

Non-technical Training

Did you receive any training on non-technical issues relating to WebCT?

JK	YES 17	58%	NO 12	42%
J	YES 7	58%	NO 5	42%
K	YES 10	58%	NO 7	42%

What term best describes this training – simple, moderate or difficult?

Mostly described as 'Moderate' (82%) – the rest (three or 18%) found it simple – not found difficult. The three who found it simple were in Department K.

How comprehensible did you find this training – very, fairly or not at all?

Most found the training either very or fairly comprehensible (89%) (only two did not find it all understandable – one for each department).

How confident were you with using WebCT after this training – very, fairly or not at all?

No-one was very confident in using WebCT after this training; most were confident (89%); the two that were not were both in Department K.

Was the non-technical training appropriate or relevant to your own needs?

Department J

- "One needs more hands-on experience to feel very confident; I suppose this comes with time."
- "I was very fairly confident but training was tailored to very basic functions."
- "Any training would have been helpful"
- "Yes – I was a beginner and knew nothing about it. I was reassured that it was ok, not to know and talked through the areas".

Department K

- "Yes"
- "No – I haven't used it since"
- "A lot of the training came early – before WebCT was used comprehensively"
- "It was about 18 months ago and at that time, I didn't really need to use WebCT much. I had to refamiliarise myself with it at the end of August (2006) (NOTE: after the survey period).
- "No – the technical training needed to be matched with academic issues training about designing material appropriate for the web"
- "Only partly – I just had an overview"
- "Somewhat"

What other resources would have been useful?

Department J

- "More training on more complex functions"
- "Drop in tutorials"
- "More accessible drop in sessions on Campus Y"
- "Ongoing support was useful, but tailored to Campus X"

Department K

- "Perhaps a training site to practice with"
- "Relevance was increased when it was actually being put to use in department"
- "A manual"

Following this training, were you able to communicate the advantages of WebCT to your students?

Department J

- "Yes, it was very useful to communicate and upload teaching materials and initiate discussion."
- "Yes – in a limited way – I am still learning"
- "Yes – I think so"

Department K

- "No – the students were not using WebCT until (after the survey period)"
- "No – a strong personal interest and commitment was needed to communicate to other staff – far less students"
- "No"
- "Yes" (x4)

Non-technical Support

How much support did you receive for these non-technical issues? (28 training; 29 other); of these (J 11 training; 12 other and K 17 all)

	None	Some	A lot
Training JK	12 (43%)	13 (46%)	3 (11%)
Training J	5 (46%)	4 (36%)	2 (18%)
Training K	7 (41%)	9 (53%)	1 (6%)
Application JK	13 (45%)	12 (41%)	4 (14%)
Application J	4 (33%)	5 (42%)	3 (25%)
Application K	9 (53%)	7 (41%)	1 (6%)
Other JK	16 (55%)	12 (42%)	1 (3%)
Other J	5 (42%)	6 (50%)	1 (8%)
Other K	11 (65%)	6 (35%)	0 (0%)

With respect to training provision:

Department J: "I can't remember; maybe training was offered at sometime and could not attend"

From whom did you receive this support?/How was this support provided? (29)

- Only one person (in Department J) (3%) felt that IT gave this support – in fact, they don't (but interesting that some people thought this).
- 14% were serviced by Learning Services (the people who trained people in the technical use of WebCT).
- 31% said that they received support from VLE Staff (on Campus X)
- 41% said that they received support from other people (i.e. specialist on campus staff, and this was the author)
- Departmentally, 58% received support from the specialist in Department J, and 42% in Department K (jointly with the VLE Staff)
- 58% of those questioned received WebCT support face-to-face, 21% by phone, 28% by email.
- In Department J, the figures were: 67%, 42%, and 50% respectively.
- In Department K, the figures were: 53%, 6%, 12% respectively.

How valuable and appropriate was this support to you?

Department J

- "Very valuable"
- "Good"
- "Limited by pace of development in WebCT, but where appropriate, good"
- "The most valuable was the support and encouragement of the (technical) support employed by the department, whose commitment to ensuring the smooth 'fit' and high quality of our site has been exemplary."
- "Every time I needed to ask a question or have a difficulty sorted, the (support employed by department) made themselves available and did what was necessary (i.e. explained or solved the problem)."
- "Extremely valuable. I found (the support employed by department) to be efficient, reliable and prompt. Also, very importantly for me, sympathetic to my lack of technical skills and offering to undertake WebCT tasks on my behalf."
- "Much of the acting support is confined to Campus Y; it has been woefully inadequate".

Department K

- "It was very valuable and appropriate"
- "Training was an appropriate introduction"
- "Very appropriate"
- "Relevance while we worked on developing a Portfolio but when it was decided to use another VLE (Pebblepad) less so. Contact increased again when handbooks and PowerPoints were placed on WebCT"

- "Very valuable"
- "Very valuable but not enough"
- "Very valuable"
- "Extremely valuable"
- "Very valuable and very supportive"

Technical Training

Did you receive any training on non-technical issues relating to WebCT?

JK	YES 14	48%	NO 15	52%
J	YES 4	33%	NO 8	67%
K	YES 10	58%	NO 7	42%

What term best describes this training – simple, moderate or difficult?

The vast majority found the training moderately hard. Two found it simple (one in each department), one found it difficult (K).

How comprehensible did you find this training – very, fairly or not at all?

Four (29%) found it very comprehensible; most of the rest fairly so.

How confident were you with using WebCT after this training – very, fairly or not at all?

Only one person was very confident in WebCT after technical training, most of the rest were fairly confident.

After this training, did you post your own lecture notes to WebCT?

24% could post lecture notes to WebCT (33% Department J, 17% Department K).

What further assistance did/would you welcome to develop your confidence?

Department J

- "Some additional tutorial time would probably be enough."
- "Extend the training to more sophisticated functions"
- "The main issue for me was the time it took to do it. Also I was offered assistance in doing so. I intend to ask for further training later in the year."

Department K

- "I would welcome a basic input which would help me support students with WebCT and design tasks for WebCT"
- "I would need to be shown how to post my lecture notes on. Also to have access to the area where my lecture slides are posted – but I cannot because I am not the module leader"

- "Not necessary – we are just at the stage of preparing to use the site"
- "Sent to specialist support staff – would welcome development to do this myself"
- "There has been a time lapse. Training would be useful now when we are making use of WebCT"
- "The training was comprehensible – but only after I practiced alone later; it was very fast and condensed. A course with time to explore putting material to WebCT with help nearby to answer questions as the project proceeds"
- "Further meetings to support handout tasks"
- "Time – to practise learning"
- "Some more training"

Following this training, were you confident enough to help your students use WebCT?

Department J: "Yes"(x4), "No"(1)
Department K: "Yes" (x5), "No" (x3)
"No – it was not being used at that time"; "No"

The majority of lecturers felt confident after technical training (69%) that they could help the students, but this was greater in Department J (80%) as opposed to Department K (62%).

Technical Issue Support (28 responses logging; 11,17;
26 uploading/discussion 11,15;)

	None	Some	A lot
Logging JK	7 (25%)	15 (54%)	6 (21%)
Logging J	2 (17%)	7 (58%)	3 (25%)
Logging K	5 (31%)	8 (50%)	3 (19%)
Uploading JK	10 (39%)	12 (46%)	4 (15%)
Uploading J	3 (27%)	5 (46%)	3 (27%)
Uploading K	7 (47%)	7 (47%)	1 (6%)
Discussion JK	16 (61%)	7 (27%)	3 (12%)
Discussion J	4 (36%)	5 (46%)	2 (18%)
Discussion K	12 (80%)	2 (14%)	1 (6%)

Two of the three people needing help in logging in were course directors. A course director also required help in uploading files.

Technical: How much support did you receive with respect to technical issues relating to WebCT?

Department K

- "I have not been in a position to take advantage of any support offered due to pressure of other work"

- "I did not know about WebCT's discussion capacity; but there was no educational reason at that time for establishing such groups"

Technical Support source (all departments)

- 7% from IT Services
- 10% from Learning Services
- 38% from University VLE Staff
- 41% from someone else (the author)

- In department J: numbers were 17%, 17%, 50%, 67%
- In department K: numbers were 0%, 6%, 29%, 24%

May well reflect less developed system in Department K.

45% said that this support was enough for their needs; (50% Department J, 41% Department K).