

SOLE Case Study Series



Economics

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Website: <http://sole.ilrt.bris.ac.uk/>

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Executive Summary

This is the summary of the final report, which analyses the results of a study conducted during 2003 of two full-time and campus-based year 1 Economics modules (case study 7 and case study 8). These case studies took place in two different UK Universities, using Blackboard and WebCT respectively. The survey was carried out by the Economics centre of the Learning and Teaching Support Network (Economics LTSN) as part of the Students Online Learning Experiences (SOLE) project.

Introduction

SOLE is a project funded by the Higher Education Funding Council for England (HEFCE) via the [Learning and Teaching Support Network \(LTSN\)](#) Tranche 2 initiative and the [Joint Information Systems Committee \(JISC\)](#) to undertake an independent evaluation of students' usage of virtual learning environments (VLEs) in higher and further education. The purpose of the study is to draw out the effectiveness of VLEs in supporting different subject areas, different national agendas (such as that of widening participation) and student learning in general.

Methodology

The study methodology was based upon the evaluation framework set out in the handbook for learner-centered evaluation of computer facilitated learning projects in higher education ([Philips et al., 2000](#)). Several aspects of the research have drawn on the Critical Incident Technique pioneered by Lockwood ([Gilbert and Lockwood, 1999](#)). The approach is designed to provide an in-depth set of case studies based on course modules across a range of subjects, with a wide range of data and collection methods.

The following main primary data gathering tools were used:

- Student questionnaires (two - one at the start of the module and one at the end)
- Student diaries (two – one in week 3 and one two weeks before the end of the module)
- Individual student interviews (at the end of the module)
- Tutor interviews (two – one at the start of the module and one at the end).

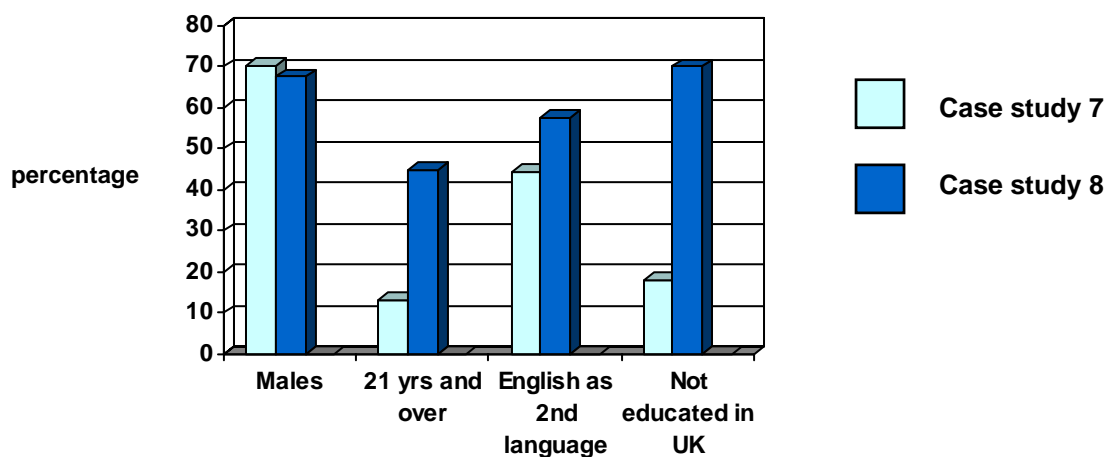
The following secondary sources were consulted:

- The teaching and learning strategy of the institution
- Log details of student behaviour in the VLE (e.g. number of times logged on and activities undertaken)
- Discussion board transcripts.

Culturally diverse students

The UK Economics student cohort consists of 32.4% non-UK students, 12% mature students and 67% male students (HESA, 2001). Our two case studies involved large groups of students (216 and 97 respectively) with a culturally diverse background, the majority of case study 8 students and just under half of case study 7's students with a first language other than English. Almost half of case study 8 students were mature (over 21 years) and both case studies approximately reflected the national economics student cohort of a 7:3 male to female ratio.

Figure 1: Percentage profile of participants for both case studies



Different learning models

Both case studies presented very different learning models, with case study 7 focusing on collaborative learning in groups and case study 8 following a more traditional lecturer-led format. However, both courses explicitly undertook to involve students actively in their learning and to use VLEs to involve students in collaboration and discussion, as well as to provide resources.

VLEs used a resource-base

The learning models for both case studies were not fully translated to the online environment, with both case studies experiencing some difficulties with online communication. Primarily the VLEs were used by students to access course information and materials. Both courses to use the VLE to support teaching large groups of students by providing the students with extra support and contact, and reducing their own administrative load.

Working online positive motivator

Working online and help and support from the VLE registered as large positive motivators for both case studies, and many students commented on the usefulness and motivating effect of having module resources at their finger-tips when they wanted to use them. However, many students became less confident over the course of the modules, about learning and communicating online.

Issues of confidence?

Students who were motivated in their subject and confident in themselves to do well in the module had higher levels of confidence in using a VLE. Females and students with a first language other than English were less confident in both themselves and their subject and made greater use of VLEs (females in case study 7 and non-native English speakers in case study 8). Along with the many positive comments about using a VLE this goes some way to suggest that VLEs can provide useful support.

Issues of communication, roles and authority

Cultural differences, including language competence, previous teaching and learning modes and attitudes, and modes of address in our case studies contributed to difficulties in online communications, for example low levels of participation in online discussion in case study 8.

Tutors in our case studies did not necessarily take on the roles of guides or facilitators as a result of their VLE learning models. In case study 7 the tutor had a facilitation role and the students viewed themselves as independent learners, but this was intrinsic to the learning model and not attributable to the VLE. In case study 8, conversely the tutor had a strong leadership and expert role, reflecting a traditional learning model. Cultural differences may have also contributed to issues over roles and authority within the VLE.

Support gaps

The VLE inductions for students were largely focussed on the technology, but students who were otherwise clearly motivated lost confidence in learning and communicating online, suggesting that they may not have had the necessary online study skills support.

Both tutors had access to pedagogical and technical support, including pedagogical support, but time issues prevented them from accessing it and developing their VLE materials. The tutor from case study 8 recognised a need to see how other people were using VLEs.

Where next?

The data collected from these two case studies is comprehensive and rich, and may still yield more interesting and informative findings. In particular the following issues would be worthy of further analysis:

- cultural, gender and age issues
- transferring a collaborative face-to-face learning model to an equivalent online model.

Further data collection is also being considered including:

- expanding the number of case studies to provide more generalisable and significant data and information
- revisiting the students in our 2 case studies in the coming two years and comparing their later experiences and attitudes of VLEs.

As a result of this study and in order to enhance and develop our support of Economics lecturers, Economics LTSN is:

- commissioning new case studies to be available online, including ones that give examples of innovative and successful use of online communications, support of culturally diverse students and supporting students' online study skills
- developing a new paper-based and online chapter of our Handbook for Economics lectures, focussed on online communications
- developing our VLE workshops for lecturers to reflect our findings
- reviewing how we might best support lecturers in their support of Economics students' online study skills.

1. Introduction

The following two case studies focus on Economics Departments in two UK HE institutions and represent the Economics LTSN input into the SOLE project. The main aim of the case studies is to explore student online learning experiences using a holistic approach that draws on both qualitative and quantitative methods of data gathering. Both case studies are based upon level one undergraduate modules within full-time campus-based Economics programmes.

1.1 Purpose of the study

SOLE is a project funded by the Higher Education Funding Council for England (HEFCE) via the [Learning and Teaching Support Network \(LTSN\)](#) Tranche 2 initiative and the [Joint Information Systems Committee \(JISC\)](#) to undertake an independent evaluation of students' usage of virtual learning environments (VLEs) in higher and further education. The purpose of the study is to draw out the effectiveness of VLEs in supporting different subject areas, different national agendas (such as that of widening participation) and student learning in general.

1.2 Background

Virtual learning environments

The term virtual learning environment or VLE has been widely used over the past five years to describe online learning environments that have emerged and developed in both higher and further education in the United Kingdom. Initially these were defined and conceptualised functionally, for example as 'learning management systems that synthesise the functionality of computer-mediated communications and on-line methods of delivering course materials' (Britain & Liber, 1999). However, the definition itself has evolved alongside these learning environments and the emphasis has shifted from the technological components to a focus on how a VLE supports learning. This is demonstrated by a more recent definition from the UK Joint Information Systems Committee (JISC), which defines a VLE as 'the component(s) within an MLE that provides the 'online' interactions of various kinds, which can take place between learners and tutors, including online learning.' (JISC, 2002).

The potential of VLEs to support new ways of learning and to support the increasing heterogeneity of the student cohort is widely recognised and anticipated (DfES, 2003). Many Higher Education institutions, in order to recruit and retain a growing diverse range of students are looking to provide increasingly flexible learning opportunities (e.g. part-time, practice-based, distance) and a more supportive environment (e.g. provision of extra resources to support less able students skills etc.). There is now an increased focus on the potential of e-learning, and VLEs in particular, to deliver these objectives (DfES, 2003; HEFCE, 2003). Such objectives have been key to the explosive uptake of VLEs in the UK over the past few years and reflects the drive from government and institutions to fully exploit the potential of these new technologies. A UCISA survey (Armitage et al, 2001) reported a 7% uptake of VLEs in 1997 compared to an 81% uptake by 2001. This survey was updated in 2003 and as might be expected VLE uptake has continued to rise to 86% of returns; that is 84% of pre-91 universities; 97% of post 91 universities and 67% of HE colleges (Brown & Jenkins, 2003).

However, to date, the evaluation, subsequent support and use of VLEs has focussed on staff rather than learners. Stiles (2002) reports from a recent survey of 127 HE/FE institutions that the vast majority of institutions have selected VLEs for one reason above all others: 'ease of use by staff'. The 2001 UCISA survey substantiated this finding: '...the focus of the impact of VLEs on institutions is on *staff* rather than *students*' and concludes that 'VLEs are widely recognised as an important component of an institutional strategy yet is poorly matched by delivery' and 'mature support mechanisms have ... yet to be comprehensively developed across the sector' (Armitage et al, 2001). However, according to the more recent UCISA survey conducted by Brown & Jenkins (2003) there is now increased recognition that VLEs are intended to support learning, rather than for example, efficiency gains and they report a pattern of consolidation across the contributing institutions which is more encouraging.

VLEs and Economics Higher Education

The uptake of VLEs by UK *Economics* lecturers has increased from 35% in 2001 to 57.6% in 2003 (LTSN Economics lecturer surveys, 2001 and 2003). Notably, one of the most popular topics for Economics LTSN seminars/workshops when visiting departments is the use of the Web and VLEs,

and understandably academics are keen to be presented with examples of best and most effective practice.

Many Economics departments, are looking to eLearning and VLEs to help them achieve such aims as recruiting more students and supporting an increasingly diverse range of students. For example, development of new courses, particularly at postgraduate level and at new universities, in order to recruit a wider range of students e.g. overseas and business students are on the increase. As a subject area Economics requires students to develop a diverse range of skills and with an increased intake of students with different backgrounds and skills, many students are struggling to develop these skills (e.g. maths), and academics are looking to VLEs to help them provide students with cost-effective supplementary support.

These two case studies form part of a larger research project that aims to address the apparent lack of research into this important area – the Students' Online Learning Experiences (SOLE) project (<http://sole.ilrt.bris.ac.uk/>).

The SOLE project (Students Online Learning Experiences)

The two Economics case studies form part of a larger research project – the Students' Online Learning Experiences (SOLE) project, (<http://www.ilrt.bris.ac.uk>), which was funded by the Learning and Teaching Support Network (LTSN) and the Joint Information Systems Committee (JISC). The project team consists of researchers from five different LTSN centres and covers the subject areas of Economics, Psychology, Information and Computer Science, Education and Hospitality, Leisure, Sport and Tourism. The case studies come from ten different HE and two FE institutions and include both undergraduate and postgraduate students.

When the project began in 2002, there were few, if any, studies focussing on student experiences of VLEs. Since then, a few examples have been published (Breen, 2002, Aspden et al 2003) although these have focussed primarily on one institution. Furthermore, whilst there is a growing body of evidence on individual aspects of the student experience of online learning, there has been far less research exploring the total learning experiences of students and student behaviour when learning using a VLE.

The main research questions the project aimed to address were:

- What is the implicit learning model, what is the explicit learning model and what is the actual tutor and student behaviour?
- What factors do students identify as affecting their motivation positively or negatively and can these be attributed to the VLE itself?
- How much time (online and offline) do students spend working on VLE modules?
- What resources are the students making use of and what patterns of use can be identified?
- How do students use the VLE toolkit?
- How do students choose to communicate and for what purposes? How do the VLE tools support this?
- What is the role of the tutor? What is the role of the student? How do these relate to the implicit, explicit and actual model of learning? How does it relate to student participation in the VLE?
- Is it possible to identify issues around authority, for example of knowledge, expertise and teacher-student communications, in relation to VLEs?
- How do students and tutors use and perceive the various forms of support available? How important do tutors think the support is and what is their understanding of student preferences?

It should be noted that whilst a range of different VLEs formed part of this project the intention of this research was not to compare VLEs. The main focus is to try to identify what happens when students are working within a VLE; the discourse and processes they undertake; the students' views and perceptions and identifying common factors and success indicators. It is also intended that these research questions draw on *all* case studies and it may therefore not be possible for a single case study (or the two contained within this report) to address all the questions.

1.3 Methodology

The study methodology was based upon the evaluation framework set out in the handbook for learner-centered evaluation of computer facilitated learning projects in higher education ([Philips et al., 2000](#)). Several aspects of the research have drawn on the Critical Incident Technique pioneered by Lockwood ([Gilbert and Lockwood, 1999](#)). The approach is designed to provide an in-depth set of case studies based on course modules across a range of subjects, with a wide range of data and collection methods.

The following main primary data gathering tools were used:

- Student questionnaires (two - one at the start of the module and one at the end)
- Student diaries (two – one in week 3 and one two weeks before the end of the module)
- Individual student interviews (at the end of the module)
- Tutor interviews (two – one at the start of the module and one at the end).

The following secondary sources were consulted:

- The teaching and learning strategy of the institution
- Log details of student behaviour in the VLE (e.g. number of times logged on and activities undertaken)
- Discussion board transcripts.

The 2 Economics case studies were completed between February and June 2003. The methods used followed the methods used by the entire project with the following completion rate:

Table 1: number of responses by research tool

Description	Total number of responses	
	case study 7	case study 8
Number of students on module	217	97
<u>Response</u>		
Questionnaire 1	99	40
Questionnaire 2	26	32
Questionnaire 1 + Questionnaire2	13	16
Diary 1	0	9
Diary 2	0	4
Diary 1 + Diary 2	0	4
Tutor Interview 1	1	1
Tutor Interview 2	1	1
Student Interview	2	3

Student questionnaire 1 had an over 40% level of completion and was administered during the students' first lecture for both case studies. However a large percentage of students were not present at both of the first lectures. This made matching up second questionnaires more difficult, and numbers of matched questionnaires are small for both case studies. Student questionnaire 2 was particularly difficult to administer in case study 7, which did not meet as a group after February and as a result numbers of completed questionnaires were low. For case study 8, many students were not present at the last lecture at which student questionnaire 2 was administered, which also contributed low questionnaire 2 numbers.

No student diaries from case study 7 and very few student diaries from case study 8 were completed despite book token prizes being offered. Only 4 students from case study 8 completed both diaries, two of these also completed both questionnaires. Arranging student interviews also proved problematic, with many students not showing up as arranged and other students no longer on campus at the end of the module. No student completed both questionnaires/ diaries and was interviewed.

However, VLE access data for both case studies, and board transcripts from case study 8 were collected, which has informed the study's understanding of how the VLEs were being used in each case.

The tutors from each case study completed both interviews.

2. Background to case studies

2.1 Context of the modules

Both case studies were undertaken at post-1992 UK universities during the February – June 2003 12-week semester. Each case study focussed on a full-time year one compulsory module, both of which were campus-based. Case study 7 used Blackboard and case study 8 used WebCT.

2.1.1 Case study 7 outline

Module name	Workshop module (compulsory)
Length	One 12 week semester
Credits	7.5
No of. students on module	217
VLE	Blackboard
Aim	Develop team-working skills, practice managing own work, and gaining experience of producing research reports. Intended to support students in producing an independent dissertation later in the course.
Learning Outcomes	Varies according to contribution to group project, but will involve: managing colleagues' work, gathering information, applying economic analysis and using ICT facilities.
Teaching and Learning Methods	<ul style="list-style-type: none"> • 2 classes in week 1 and week 3 to discuss module and assessment. • Work on the assignment in groups. Groups are predetermined. Each group has 2 managers who apply to the module leader. Group managers are responsible for assigning and managing tasks, awarding bonuses or penalties to individuals, liaising with the module leader and consulting module details on Blackboard.
Assessment	<ul style="list-style-type: none"> • Group symposium (collection of separate essays with an introduction) dealing with one of the topics set for workshop B (allocated on a first come first served basis). The number of essays each group does is based on the number of students within the group. The symposium is awarded a grade and individuals' marks are above or below according to their individual contribution (group managers can award bonus and penalty marks, the module leader can award group managers bonus marks). • Each group symposium must be accompanied by group meeting minutes (group managers' responsibility) and individual logs from non-group managers. • Individual essays are possible but carry a penalty for non-group work unless accompanied by a written rationale for non-participation.

2.1.2 Case study 8 outline

Module name	Introduction to Macroeconomics (compulsory)
Length	One 12 week semester
Credits	15
No. of students on module	97
VLE	WebCT
Aim	Provide an understanding of the workings of the economy as a whole.
Learning Outcomes	<ul style="list-style-type: none"> Act appropriately in the context of social and cultural diversity in the modern-day society i.e. demonstrate knowledge and understanding of key economic issues of the day and their impact upon various agents and institutions. Think critically and produce solutions.
Teaching and Learning Methods	<ul style="list-style-type: none"> Lectures: 1 and a half hours a week. Seminars: 1 and a half hours per week that involve discussion and a weekly set of problems to solve. Module web pages on WebCT including lecture notes, answers to seminar problems, discussion board.
Assessment	<ul style="list-style-type: none"> Coursework (30%) – collect, analyse and comment on macroeconomic aggregates (e.g. GDP, Price indices, unemployment). 3 hour unseen exam (70%). Testing ability to apply theoretical models to real world events. Short questions, problems and commentary on specialised articles.

2.2 Profile of participants

2.2.1 Gender

Table 2: percentage of respondents to questionnaire 1 by sex

	case study 7	case study 8
Male	70.4%	67.5%
Female	29.6%	32.5%

The demographics of the survey participants can be compared to those of the survey population, using data from the HESA publication Students in Higher Education Institutions in 2000/2001. The general proportion of male/female students studying economics is 33%, which both case studies closely reflect.

2.2.2 Age group

Table 3: percentage of respondents to questionnaire 1 by age

	case study 7	case study 8
<21	86.9%	55%
21-<41	13.1%	45%
41+	0%	0%

The general proportion of Economics graduates under 21 is 88% - a similar proportion is reflected in case study 7, whilst case study 8 has a large proportion of mature students.

2.2.3 Country of education/first language

Table 4: percentage of respondents to questionnaire 1 by country of secondary education

Country of education	case study 7	case study 8
UK	72.4%	30.0%
W. Europe	4.1%	2.5%
E. Europe	-	2.5%
Africa	4.1%	22.5%
N. America	-	5.0%
S. America	1.0%	-
E. Asia	3.1%	7.5%
S. Asia	3.1%	7.5%
Middle East	-	2.5%
2 countries	10.2%	2.5%
Other	-	17.5%

Table 5: percentage of respondents to questionnaire 1 by first language

First language	case study 7	case study 8
English	55.6%	42.5%
Afro-Asiatic	3.0%	5.0%
European-based	11.1%	15.0%
Indian- based	12.1%	5.0%
Chinese-based	10.1%	10.0%
Other	8.1%	22.5%

Respondents showed they had a large range of languages as their first language: case study 7 collectively had respondents with 21 languages other than English as their first and case study 8 had 19. Respondents also received their secondary education in many countries other than the UK: both case studies each had a range of 20 different countries other than the UK in which students were educated.

According to HESA, 67.6% of UK Economics undergraduates come from the United Kingdom and a further 17.0% from the USA and Australia, for whom English is likely to be their first language. Neither of the case studies had respondents from Australia, and only 2 US students were respondents in case study 8. Case study 7 appears to more closely reflect the UK Economics profile, with 72.4% of students being educated in the UK, although many students educated in the UK did not have English as their first language. Case study 8 reflects a more culturally diverse population with 70% of students being educated in a country other than the UK and 57.5% of students spoke a language other than English as their first language.

3. Results

The findings from the two case studies will be reported separately with a comparative summary at the end of each section. Similarities and differences between the experiences of the students will be explored in the comparative summaries and these will be further discussed in the conclusion.

3.1 Learning models – explicit/implicit

3.1.1 Case study 7

At case study 7's institution the learning, teaching and assessment strategy is explicitly student-centred. For example:

- it discusses targets to focus on the redesign of first year courses to better match the prior learning experience of students and to focus more on feedback and formative not summative assessment
- it pays a lot of attention to meeting the needs of a diverse student population.

The strategy also has a large technology element with plans to exploit the benefits of eLearning in order to enhance the student experience and cope with large cohorts of a diverse student population. To this end all faculties had produced roll-out plans for their use of technology in teaching and over half of level one units were making use of Blackboard in some way. The strategy also discussed plans to use of Blackboard more creatively than simply as a course repository.

The Economics Department had just started to roll-out the use of Blackboard across the department at the time of the case study. One of the aims for using Blackboard within the department was to help deal with large numbers of students both by giving them access to online resources rather paper-based resources and by increasing the potential contact time:

“Well, we are dealing with larger numbers...so we haven't got time to speak to each one [student] individually, if we can apparently have more personal direct contact using something like Blackboard, then it will actually have quite a prominent role to play.” (tutor)

One of the main objectives of the workshop module in case study 7 was for the students to learn and experience group work, in a situation close to a work situation. Other objectives included collecting information, using IT and applying economic analysis.

Students were placed in predetermined groups of around 12 or 13. Each group had 2 managers who applied for the post to the module leader. Group managers were responsible for assigning and managing tasks, awarding bonuses or penalties to individuals, liaising with the module leader and consulting module details on Blackboard. The assignment was a group assignment – a 'symposium', or collection of essays. Each group decided how to carry out the assignment and was awarded a group mark plus or minus any bonus or penalty points.

Explicitly the model of learning for the module was a collaborative and active model with students organising and directing their own work:

“Hopefully, they will be learning better by actually being involved - by actual group peer pressure and learning by doing.” (tutor)

“Normally, they always tend to split it up between groups, say three people do one essay, three people do the other essay. But they don't have to do that, they could have somebody actually do the research, somebody actually do the production, somebody doing the writing. But I have yet to see that actually happen.” (tutor)

The module had been run in previous years, without Blackboard, with students using physical noticeboards, email and mobile phones to communicate within their groups. In previous years the tutor had not met with the entire group at all (he met with them twice this time).

In order to support the explicit learning model of collaboration the tutor had intended to set up group areas for each student group which would allow easy group email, a group discussion board, file exchange and group chat. However the tutor found the task too time consuming as each student needed to be added in individually, and abandoned the idea. With the group discussion areas absent the online part of this module, whilst providing central resources for all students to access, did not fully reflect or support the collaborative aspect of the overall learning model.

3.1.2 Case study 8

Case study 8's institution is focussed on student-centred learning and pays particular attention to ensuring that learning is accessible, flexible and meets the needs of a diverse student body. For example, the tutor commented on the assessment strategy of the University:

“So in every programme you will see a combination of exams, coursework, projects, presentations, teamwork, open and closed exams. And so I think this university is quite a forward-looking one.” (tutor)

The Economics Department explicitly undertakes to involve students in *active* learning as opposed to *passive* learning:

“The philosophy of the group is that learning is an activity. Learning is a doing thing and students need to do things in order to learn. The student needs to be active and not passive. The emphasis is on practice, be it formal or informal, summative or formative.” (Case study 8’s Department position paper on Learning, Teaching and Assessment)

There was no specific Departmental stance on the use of VLEs at the time, and the tutor on this module was one of the first tutors within his department to use and experiment with the institutional VLE, WebCT.

The tutor aimed to actively engage students as researchers, by relating theory to real world events and by exploring and discussing issues and analytical approaches:

“... I think three - probably three pedagogical approaches I try at least... the first pedagogical approach I think is that one of engaging actively, not only in terms of reading a book, but actively in terms of collecting information, data, exploring issues, and by working directly yourself. The second one is to make them learn through case studies, so newspaper articles, or short quotations from newspapers will be used to introduce topics and to show the students how the topics that we discuss in class have actual real events in the real world. And the third one... in seminars in particular but in lectures also I try to help them as much as possible in working through the classes so that I’ll try to address issues by asking them first to see what they think or how they would go about things when I tell them, well OK, this makes sense, this one makes sense, this is how we should go about stuff.” (tutor)

The overall aim of the module was to provide an understanding of the workings of the economy as a whole and the ability to discuss the topic:

“So by the end of the module I don’t want them to be experts in macro economics, I want them to be able to hold a basic simple conversation about what is happening, and how things are affected by basic macro economic events.” (tutor)

The explicit learning model therefore included elements of activity and discussion.

The module followed a traditional format of presentation in lectures and discussion, practice and collaboration in seminars. Students were assessed through a combination of an unseen exam of short questions and coursework involving the collection and analysis of data. The online part of the module clearly reflected the overall learning model with the provision of lecture notes, seminar problems, online quizzes and online discussion facilities. The tutor also wanted to use the VLE in such a way to offer support and a point of reference to students and to help him cope with large numbers of students:

“The first one [objective] is to provide extra support... To have a website as a reference point, I think gives them support and help that they need. The second one is maybe to make my life easier, in the sense that if I can post notices up there, if I can put the lecture notes, the seminar notes, up there it will become much easier for me to distribute material rather than to have queues of students outside my door... In this way it becomes streamlined. (tutor)

Summary

Both case studies presented very different learning models, with case study 7 focusing on collaborative learning supported by the lecturer and case study 8 following a more traditional lecturer-led format. However, both case studies explicitly undertook to involve students actively in their learning and the case study 8 lecturer did intend to involve students in online discussion to enrich and develop their understanding of their subject. It is worth noting:

- In case study 7 the collaborative aspects of the module were not ultimately reflected/embedded within the online element of the module
- Both tutors also aimed to use the VLEs in a way to support their teaching of large numbers of students by increasing student contact time with the module, while decreasing their time spent on administrative/individual support issues.

3.2 Student and tutor roles, use of resources and communication

Both case studies undertook to involve students actively, with case study 7 focusing on collaborative work, and case study 8 following a more traditional format, involving an element of problem-solving and discussion. In relation to the learning model of case study 7, one might expect the tutor to take on a facilitative and guiding role, and the students to take on a team role, working independently of their tutor. Case study 8's tutor would be more a traditional leading role, allowing students to participate and learn from him and each other.

3.2.1 Case study 7

The tutor was generally viewed by the students and himself as an expert guide facilitating the workshop module; many of the students mentioned his supportive role (See also Appendix A, table 5):

"My role is there just to make sure that groups are progressing, so someone for the managers to report to if they have particular problems. Just to keep an eye on things. And obviously to mark the end result..." (tutor)

The students viewed themselves as working independently from the tutor in their groups:

"...I don't think he was traditional... this type of module is independent work... you had to meet this deadline...if you don't get it done, that's your own fault. If you ever went to him, with any problems...he was always very willing to help..." (student)

However, there were signs that student roles within their groups were not quite as planned: for the first time, the tutor had 2 students resign as group managers. One went on to do an individual assignment:

"And there was another girl who is actually a very good student, and she decided she would get a better mark if she doing an individual assignment than relying on what the group was going to do. So that's unusual, I don't get normally get group managers resigning." (tutor)

This particular student identified online communications with her fellow students being a particular problem, with members of her group not responding to her emails sent using Blackboard:

"... I think the tutor expected everybody would be able to log on and check their e-mails and keep contact regularly. The situation .. I was not happy. I e-mailed them about five times and then they didn't even contact me..." (student)

The tutor also felt group managers were less self reliant than in previous years because he had met the entire group:

"My perception is also that a number of managers were more reliant on my intervention, or wanted my intervention perhaps more than in previous years. Again, that might just be perception. That might be because I actually had a bigger involvement at the start. I actually met them, and explained the course of the module." (tutor)

The VLE was primarily used to access information about the module and the module assignment. Students generally appreciated being able to access such information:

"That's the best thing about Blackboard, you can pick up your lecture notes, you can - not for this module, but you can submit work as well" (student)

The tutor had intended to set up group areas for each individual group which would allow easy group email, a group discussion board, file exchange and group chat but found the task too time consuming as each student needed to be added in individually, and abandoned the idea. Some students (87.6% of all of the students had used Blackboard before this module) had expected to use more of the Blackboard facilities on this module:

"I suppose I expected more of a discussion. You're supposed to be able to use a discussion, but nobody ever uses it." (student)

Any communication via the VLE was through the email facility, of which Blackboard does not keep a record. As with the student who resigned as group manager, some communications broke down using the email facility within Blackboard. She attributed this breakdown to individual students' motivation for the module.

Others commented about the usefulness of using email via Blackboard;

"Blackboard is useful, basically... Basically, you got your group, you can e-mail your group members, just - with the names, and it provides various data from one another- say having a group meeting." (student)

And for this particular student the use of the VLE did reinforce the underlying group work objective of the module:

"...it [Blackboard] encourages you to feel part of the group, being a group manager, you've got to control your group, give your group authorisation. Basically, they're e-mailing you- basically letting the group contribute." (student)

From VLE tracking data (Appendix A, tables 1 - 4) we know 9.8% of students on this module never accessed the VLE, although 44.6% of students accessed the VLE prior to the module start and 76.7% of students had accessed the VLE by week 1 of the module. Female students accessed the VLE significantly more than males.

3.2.2 Case study 8

Generally the tutor was identified as having a strong leadership role and a strong support role (See also appendix B, table 4):

"I think it [the tutor's role] was more the source of expert knowledge than anything else. Because I can say that he already has a PhD in economics, so he should know what's best." (student)

The tutor also identified his support role in the context of a relationship with the students where they return his effort with their own effort:

"I've always been very clear with the students that I'm ready to do things for them, as long as they do things for me- in the sense that as long as they put effort in themselves, I put effort. If they don't put effort, I don't put effort." (tutor)

The students viewed themselves as independent learners and researchers:

"Well, I would say I was more of a researcher. ...we all have to learn how to research, and how to manage our time, and how to learn on our own." (student)

Again, as with case study 7 the VLE was primarily used to access information. Information included on the VLE included all lecture notes, seminar problems and solutions, as well as online formative tests and online discussions. Seminar problems were posted up post-seminar. Students generally appreciated being able to access course materials:

"...the greatest thing I think I got from WebCT is the fact that I could cross reference between my notes and his notes and his own techniques...and then go back to him if I didn't understand." (student)

Non-English first language speaking students accessed the VLE significantly more than English speaking students (see appendix 2, table 2):

"... I think almost everything was easier with WebCT, because my mother language is Finnish...so it is much easier to read everything and get new information." (student)

The tutor has intended to enrich the student learning experience by encouraging online discussion on current news topics linked to his lecture themes:

"Somebody would come up with a good idea, and everybody would read it, and would learn from it. Somebody would come up with something which is wrong, and a person - maybe myself - would rectify it, and others can learn why that was wrong. So, it's a way of learning that involves mutual participation." (tutor)

However, only two or three students ever contributed to each discussion, which as a result were very short. Students' views about online discussion varied:

"I think for me, the best way to learn is more of a face to face kind of thing, because you actually then get to see the person's reaction towards what you are saying, if they understand or not... If you want to actually learn, I think the best way is to be within an environment itself that is conducive to that, which online chat rooms or whatever don't provide." (student)

"...I think this module is just about learning something that is related to the module, but there's no need [for] any discussion on something." (student)

“... there were not many discussions from fellow students... the teacher had such a strong role.” (student)

From VLE tracking data (Appendix B, tables 1 – 3) we know 12.5% of students never accessed the VLE and none of the students accessed the VLE prior to the module start. 8.9% of the students had accessed the VLE by week 1 of the module, 37.5 by week 2 and 64.3% by week 3.

Summary

In both case studies students had active roles, working independently and as researchers, and both tutors were seen as having strong supportive roles. In both case studies the tutors had intended the VLEs to involve the students actively in communicating with each other, working together and discussing subject topics. However, in both case studies online communication in particular proved problematic and the VLEs were primarily used to access information. Some students didn't access the VLEs at all (9.8% of case study 7 students and 12.5% of case study 8 students). In addition it is worth noting that:

- In case study 7 the tutor was viewed as a facilitator and guide and most students had used Blackboard before, including the online discussion facility. Females accessed the VLE more than males.
- In case study 8 the tutor was seen as having a strong leadership and expert role. He also viewed his role as a two-way relationship with students. Most students had not used WebCT before and had varying opinions on the usefulness of discussion – online or otherwise in their learning of economics. Those with English as a second language accessed the VLE more than native English speakers.

3.3 Motivation and confidence

Both confidence and motivation are clearly important in studying on a module and the addition of technology to support study raises further issues in this area. These issues are related to students IT skills in general and also to their attitude to using technology in learning. The students were asked about their previous experience and confidence in using aspects of technology. They were also asked to comment on their motivation for studying on the module.

3.3.1 Case study 7: Student preparedness and confidence in using IT

(see Appendix A tables 6 - 7 for additional source data)

The following table shows students' confidence at the beginning and the end of the module:

Table 6: Questionnaire 1; question 5 and Questionnaire 2; question 3 (all respondents)

How confident are you?:	% Very confident		% Confident		% Some confidence		% Little confidence		% No confidence	
	Q1	Q2	Q1	Q2	Q1	Q2	Q1	Q2	Q1	Q2
Using the Internet	62.6	62.5	32.3	33.3	5.1	4.2	0	0	0	0
Working and learning online	35.4	41.7	47.5	50.0	13.1	4.2	4.0	4.2	0	0
Finding your way around Blackboard	42.4	54.2	50.5	37.5	7.1	8.3	0	0	0	0
Obtaining information via Blackboard	38.4	45.8	48.5	37.5	11.1	16.7	2	0	0	0
Taking part in online discussions	9.1	8.3	22.2	29.2	43.4	33.3	17.2	20.8	8.1	8.3
The subject you are studying in this module	13.1	16.7	51.5	45.8	28.3	29.2	7.1	4.2	0	4.2

At the beginning of the module

The majority of case study 7 respondents (87.6%) had used Blackboard before the module (93.7% of those who had used it before had used it for more than one hour). The tutor reported that all of the students were using Blackboard for all of their courses and would have used Blackboard previously.

At the beginning of the module the respondents were generally confident (97.9% very confident or confident) of using the internet, with all students reporting some confidence. This was also the case for finding their way around Blackboard.

Confidence in working and learning online and obtaining information via Blackboard was also high, with only 4.0% and 2.0% respectively reporting little confidence. Students were less confident of taking part in online discussions (25.3% had little or no confidence in this area). There was also a wider range of responses to the level of confidence students had for the subject they are studying, with most respondents reporting confidence or some confidence (79.8% of respondents).

Male students were significantly more confident about the subject they were studying than female students and students between 21 to 41 years were significantly more confident than those under 21 years. Students whose first language is English were more confident in obtaining information via Blackboard than those whose first language is not English.

At the end of the module

Comparing confidence at the beginning and the end of the module, although no significant correlation between the two sets of responses was found, paired sample T-tests testing possible significant difference over the time for each particular factor showed no significant difference. This suggests little change in confidence trends as a group.

3.3.2 Case study 8: Student preparedness and confidence in using IT

(see Appendix B tables 5 - 7 for additional source data)

The following table shows student confidence at the beginning and the end of the module:

Table 7: Questionnaire 1; question 5 and Questionnaire 2; question 3 (all respondents)

How confident are you?:	% Very confident		% Confident		% Some confidence		% Little confidence		% No confidence	
	Q1	Q2	Q1	Q2	Q1	Q2	Q1	Q2	Q1	Q2
Using the Internet	48.7	37.5	38.5	43.8	5.1	18.8	7.7	0	0	0
Working and learning online	15.4	25.8	33.3	45.2	38.5	9.7	10.3	12.9	2.6	6.5
Finding your way around WebCT	17.9	31.3	35.9	37.5	38.5	31.3	5.1	0	2.6	0
Obtaining information via WebCT	12.8	21.9	43.6	53.1	38.5	21.9	5.1	3.1	0	0
Taking part in online discussions	7.7	0	20.5	16.1	35.9	38.7	33.3	25.8	2.6	19.4
The subject you are studying in this module	12.5	13.3	55.0	46.7	27.5	36.7	5.0	3.3	0	0

At the beginning of the module

The majority of case study 8 respondents (80.06%) had **not** used WebCT before the module. The respondents were generally confident of using the internet, with 92.3% of students responding as confident, very confident or some confidence. This was also the case for the level of confidence the students had for studying their subject (fewer students were very confident – 12.5% - but 95% reporting themselves very confident, confident or with some confidence).

The range of confidence for finding their way around WebCT, working and learning online was distributed across the five categories, with most students responding confident or some confidence (74.4% and 82.1% respectively). This was also the case for obtaining information via WebCT with only 5.1% of respondents with little confidence and no one with no confidence. Students were less confident of taking part in online discussions (35.9% had little or no confidence in this area).

At the end of the module

At the end of the module male students were found to be significantly more confident about the subject they were studying than female students.

Comparing confidence at the beginning and the end of the module, significant correlation was found between the two sets of responses. Students generally reported less of a range in their confidence in:

- using the internet, with 100% ranging between very confident, confident and with some confidence. Students were generally more confident about the subject they were studying.
- the subject they were studying, though confidence overall changed little.
- finding their way round and obtaining information from WebCT – students were more confident in both these areas.

Students reported an increased range of confidence in working and learning online with more students very confident and more students with no confidence. Generally students were less confident in taking part in online discussions.

3.3.3 Case study 7: Motivation

At the beginning of the module

All students were motivated by getting good marks in assessment (100% strongly agreed or agreed). 64.5 % of the students (strongly agreed or agreed) were doing the module in order to achieve personal goals and 60.2% (strongly agreed or agreed) were interested in the subject matter. 27.8% of the students (strongly agreed or agreed) were worried they might not do well in the module.

Students whose first language is English were significantly more confident about their subject and significantly less worried that they might not do well in the module than students whose first language was not English.

Overall students rated their motivation (1 = unmotivated, 10 =highly motivated) at the beginning of the module across the whole continuum with a mean rate of 6.85 (see table 8 below).

There was also some significant correlation between confidence and motivation:

- Those who agreed they were doing the module to help them achieve their personal goals were more confident about the subject
- Those who believed they were good at this subject and expected to do well had more confidence in the subject and in taking part in online discussions
- Those who worried about not doing well in the module had lower confidence in the subject and in finding way their around and obtaining information from Blackboard
- Those who were doing the module only for the credits reported lower confidence about the module.

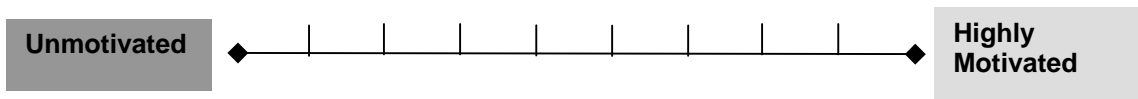
At the end of the module

Students' motivation at the end of the module showed no significant change, with a mean score of 6.74.

Table 8: Student motivation scores

Questionnaire 1; question 9 and questionnaire 2; question 1

Please mark an X on the line below to indicate how motivated you are towards this module.



Motivation (1 = Unmotivated, 10 = Highly motivated), (all respondents included)

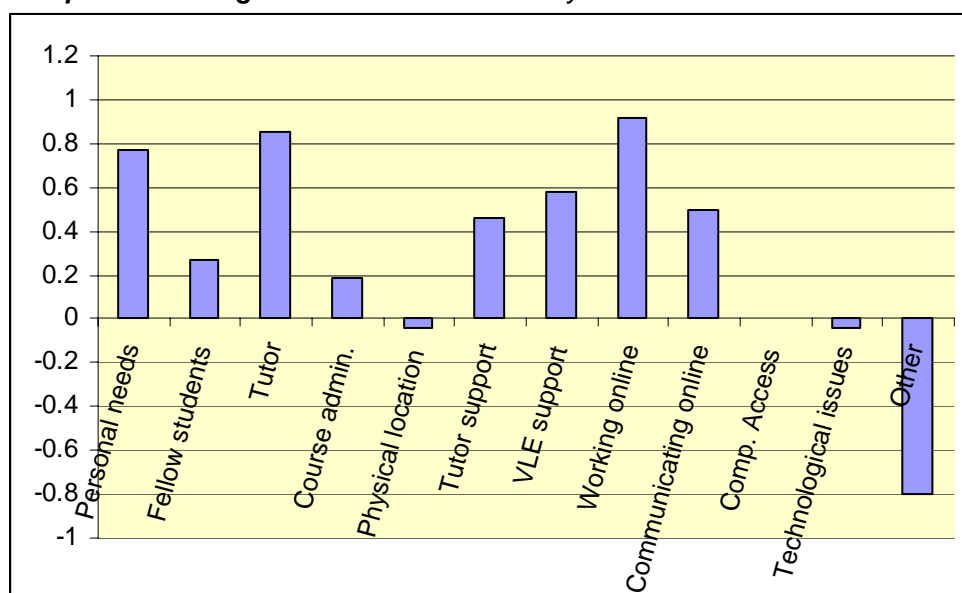
%	0	1	2	3	4	5	6	7	8	9	10	Mean score
Beginning of module	0	1.0	1.0	6.2	5.2	15.5	14.4	22.7	19.6	10.3	4.1	6.85
End of module	0	4.0	0	8.0	8.0	4.0	16.0	32.0	12.0	16.0	0	6.74

Personal needs, the tutor, help and support from the VLE, working online and online communications were large positive motivational factors for students. There were few issues with the technology, access or physical location. Other factors scored a high negative rate overall, although only one student expanded on this (relating it to a to the lack of motivation of other students in her group).

Figure 2: Overall motivational score by motivational factor (negative= -1, neither= 0, positive= +1)

Questionnaire 2; question 2:

*Did any of the following affect your motivation on the module to date? Please read each factor and then decide if it affected your motivation either positively or negatively. If so, put a circle around the word **positive** or **negative**. Leave both blank if your motivation was not affected either way.*



Students commented often on the motivating factor of working online and being able to access resources when needed:

“...rather than having that lag time, and knowing that you’ve got to do something, and then wait for your lecture notes, and then get on and do it. With the enthusiasm - you get your lecture notes, and you can just do it straight away. So you kind of - you ride on that enthusiasm, rather than having these dragged out periods.” (student)

3.3.4 Case study 8: Motivation

At the beginning of the module

All of the students were motivated by getting good marks in assessment (100% strongly agreed or agreed). 95% (strongly agreed or agreed) were doing the module to achieve personal goals and 82.5% (strongly agreed or agreed) were interested in the subject matter.

Students whose first language is English worried less about doing well in the subject than those whose first language was not English.

Overall students rated their motivation (1 = unmotivated, 10 = highly motivated) at the beginning of the module across most of the continuum with a mean rate of 7.63 (see table 9 below). Mature students (aged between 21 and 41 years) were more motivated than the younger students.

There was also some significant correlation between confidence and motivation:

- Those who were more interested in the subject matter of the module were more confident in working and learning online, taking part in online discussions and the subject.
- Those who believed they were good at the subject and expected to do well were more confident about using the internet, obtaining information via WebCT and the subject they were studying.
- Those who thought it was more important to do better than others in the group were more confident in the subject.
- Those who worried about not doing well in the module were less confident about the subject.

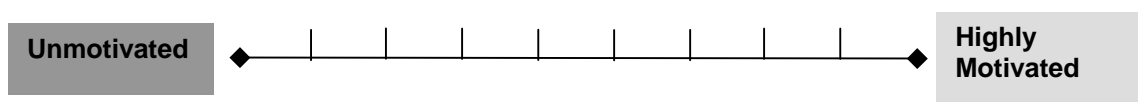
At the end of the module

Students' motivation at the end of the module showed no significant change, with a mean score of 7.05.

Table 9: Student motivation scores

Questionnaire 1; question 9 and questionnaire 2; question 1

Please mark an X on the line below to indicate how motivated you are towards this module.



Motivation (1=Unmotivated, 10=Highly motivated), (all respondents included)

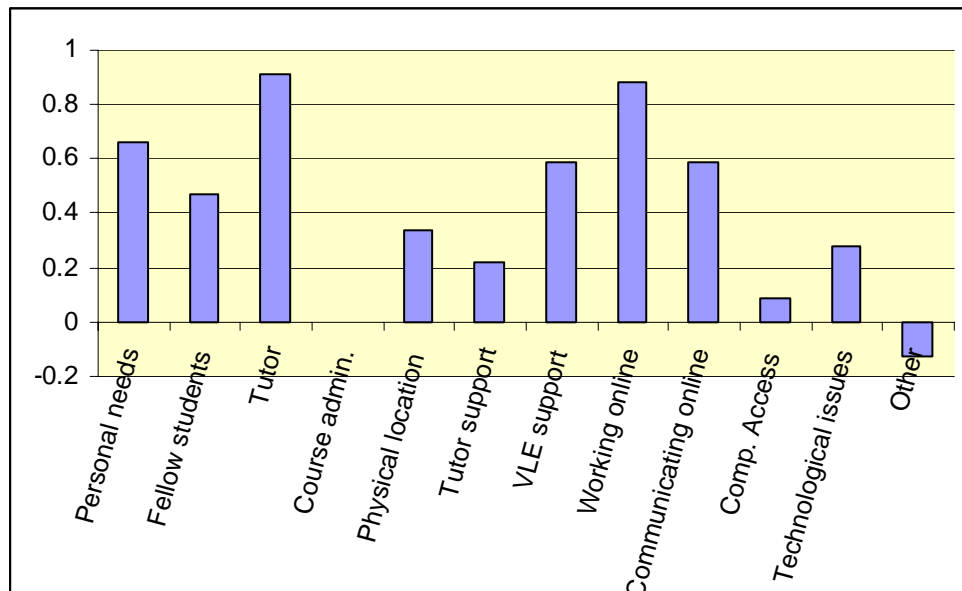
%	0	1	2	3	4	5	6	7	8	9	10	Mean score
Beginning of module	0	4.0	0	8.0	8.0	4.0	16.0	32.0	12.0	16.0	0	7.63
End of module	0	0	0	0	0	35.5	12.9	16.1	16.1	19.4	0	7.05

Personal needs, the tutor, help and support from the VLE and working online were large positive motivational factors for students:

Figure 3: Overall motivational score by motivational factor (negative= -1, neither= 0, positive= +1)

From questionnaire 2; question 2:

*Did any of the following affect your motivation on the module to date? Please read each factor and then decide if it affected your motivation either positively or negatively. If so, put a circle around the word **positive** or **negative**. Leave both blank if your motivation was not affected either way.*



Students also commented often on the motivating factor of working online and being able to access resources and activities when needed:

Interviewer: “OK. In what way did this use of supporting your lecture notes and seminar problems, how did this effect your motivation towards your module?”

Student 1: “I think it actually boosted my confidence, as students in the class because there are some questions which you actually couldn’t understand what to do until he actually showed you the layout. So the seminar questions themselves were actually for me a better way of understanding the course, not just reading, not just going to lectures, but actually tackling the problem, and then trying to adapt it into a situation. Real life situation.”

Interviewer: “OK, in what way did the occasion i.e. having your lecture notes posted up for you effect your motivation towards the module?”

Student 2: “Well, for me, it did not really demotivate me. Because I’ve always had an interest in economics itself. So it kind of reassured my aspirations as a whole. Because if I didn’t understand something, there’s at least some kind of web link to understand, that by going to this site, and checking for it. It make things much more easier for me to understand. That’s the way I’d put it.”

Summary

There is evidence to suggest that students’ motivation in their subject and confidence in themselves to do well is linked to their general confidence in using a VLE. There is also evidence in our two case studies that females and English as a second language speakers had issues of confidence compared to males and native English speakers respectively. We also know that females in case study 7 and English as a second language speakers in case study 8 accessed the VLE more (than males and native English speakers respectively). Also, case study 7 mature students (age between 21 to 41) were more confident and more motivated than younger students (age below 21).

In both case studies, where there had been problems with online communication, students became less confident in taking part in online discussions; case study 7 students did register communicating online as a large positive motivating factor. Also, students in case study 8 became less confident about working and learning online, while case study 7 students reported increased divergence in their confidence to work and learn online. Working online, particularly for case study 7 students, was a strong positive motivator for the students and students from both case studies commented many times on the usefulness of being able to access online resources when they needed them. Other significant positive motivating factors included the tutor, help and support from the tutor, and help and support from the VLE.

3.4 Support for students and staff

Support for both staff and students can come from different sources and for different purposes. For staff there can be institutional support in terms of staff development and support in developing both technical and pedagogical skills to deliver online learning. Student support is often in the form of induction and ongoing tutor and technical support.

3.4.1 Case study 7

Students

Out of 74 responses the question 'what, if any, introduction have you had to working with Blackboard?' 34 reported some kind of introduction ranging from an introduction at the beginning of the year and at the beginning of the module to introductions within other modules. 25 students reported they had had no introduction. All modules within the department were using Blackboard and an introduction to Blackboard was included in an induction programme. There was also general IT support.

7 (7.1%) students voiced concerns about using Blackboard, ranging from logging on concerns and finding exam marks to the amount of time spent looking for information. 3 students had communication concerns, 2 of which mentioned the announcement facility and others worried about contacting staff.

8.1% (questionnaire1) and 11.5% (questionnaire 2) reported the academic as being the main support in using Blackboard, with around 30% of students supported from the content of the VLE.

Staff

In terms of formal institutional support for staff there was:

- a central support service providing technical and pedagogical support
- a Faculty representative
- institutional funding for development projects
- general IT support.

The department had also run a LTSN Economics workshop looking at creative uses of VLEs. The tutor from case study 7 also commented on 'invaluable' colleague support. He also talked about finding things out for himself without having to attend talks:

"At the moment the only thing I want to achieve extra is providing notice boards for each individual group which I can find out without having to go to a talk." (tutor)

The tutor had previously commented that he had not found the time to set up the noticeboards in Blackboard.

3.4.2 Case study 8

Students

10 students responded to the question 'what, if any, introduction have you had to working with WebCT?' 4 reported some kind of introduction either at the beginning of the module (4) or within other modules (2). The tutor reported that he ran an introduction to WebCT during week 1 of the semester. There was also general IT support.

4 (10%) students voiced concerns about using WebCT, ranging from logging on concerns, navigation, privacy and currency of information. 90% of students voiced no concerns.

10% (questionnaire 1) and 28.1% (questionnaire 2) reported the academic as being the main support in using WebCT, with 50% of students on questionnaire 2 reporting they found support from the content of the VLE.

Staff

In terms of formal institutional support for staff there was:

- a central support service providing technical and pedagogical support
- institutional funding for development projects
- general IT support
- a multimedia centre that could develop more sophisticated computer-based resources on behalf of lecturers.

The tutor also reported he had been involved in training and supporting his colleagues in using WebCT. He also commented on some potential gaps/issues in using WebCT:

"I think the only issue is I'm very curious on what other people might be doing, and how to make effective use of it... And maybe the other issue is ...finding the time to develop these things." (tutor)

Summary

To summarise both case studies presented a fairly comprehensive range of support mechanisms. The following is worth noting:

- More students from case study 7 reported formal training in their VLE (15%) than case study 8 students (6%). They were generally more prepared than case study 8 students because they were using a VLE on other modules. It is worth noting that student training was generally focussed on the technology e.g. how to access the VLE etc.
- Both case study students looked to their tutors for support.
- Although few students voiced concerns about using their VLE, both sets of students became less confident over the course of the module about taking part in online discussions and case study 8 students became less confident about working and learning online.
- The tutors had access to a wide range of support, but reported time constraints that prevented them from developing their VLE materials. The tutor from case study 8 recognised a need to see how other people were using VLEs. Both tutor mentioned supporting or being supported by departmental colleagues.

4. Discussion

The two Economics case studies go some way to answering the SOLE study's main research questions:

1. *What is the implicit learning model, what is the explicit learning model and what is the actual tutor and student behaviour?*

The two case studies demonstrated very different learning models, with case study 7 focusing on collaborative learning in groups supported by the lecturer and case study 8 following a more traditional lecturer-led format. However, both case studies explicitly undertook to involve students actively in their learning, reflecting constructivist principles of learning (where learning is an active process in which learners construct new ideas or concepts based upon their current/past knowledge). Both of the learning models also aimed to involve students in discussion and group work (during seminars and online discussion for case study 7), acknowledging Vygotsky's ideas on social constructivism and the fundamental role that he argues social interaction plays in the development of cognition.

Case study 7's learning model, which aimed to develop students' team working skills, akin to the skills needed to work in a real business situation also reflected the principles of 'situated learning' (Lave, 1990), and 'cognitive apprenticeship' (Brown et al, 1989). Lave argues learning is a function of the activity, context and culture in which it occurs (i.e., it is situated) and social interaction is a critical component. This contrasts with many traditional learning activities which involve knowledge in the abstract and out of context. Cognitive apprenticeship involves the development of concepts out of and through continuing authentic activity.

Case study 8's learning model, also had elements of contextualisation of abstract economics with students working together, through seminar problems, work on case studies and the planned online discussions on topical issues.

However, the learning models for both case studies were not fully and successfully translated to VLE activities, with collaboration and discussion areas not set up for case study 7 and online discussions failing for case study 8.

Biggs (1999) refers to the process of constructive alignment as an essential requirement for effective teaching. Constructive alignment can be defined as "removing inconsistencies between the curriculum taught, the teaching methods used, assessment procedures, the educational environment created and the learning objectives students are to achieve" (Armitage & O'Leary, 2003, p18). As already mentioned the learning models for both case studies were not fully translated to the online environment, suggesting that constructive alignment was not fully achieved. In addition, some students, from both case studies didn't ever access their VLE.

Primarily the VLEs were used by students to access course information and resources. This met an aim voiced by both tutors, who wished to use the VLE to support their teaching of large numbers of students. They planned to do this by increasing overall student contact time within the module and by decreasing tutor time spent on administrative/individual support issues (for example collating and handing out large amounts of paper-based resources). It is also worth noting that in case study 7 females accessed the VLE more than males and in case study 8 English as a second language speakers accessed the VLE more than native English speakers.

2. *What factors do students identify as affecting their motivation positively or negatively and can these be attributed to the VLE itself?*

Working online and help and support from the VLE registered as large positive motivators in both case studies. Many students commented on the usefulness and motivating effect of having module resources available when they wanted to use them. Personal needs along with the tutor (and his help and support, which often would be via the VLE by email) also figured as significant positive motivating factors in both case study modules.

The two case studies also provide evidence to suggest that the students more motivated in their subject and confident in themselves had higher levels of confidence in using a VLE. Males and English native speakers were generally more confident than females and those for whom English was

a second language speakers. Case study 7 mature students (age between 21 to 41) were more confident and more motivated than younger students (age below 21).

In both case studies, students were clearly not motivated to participate in online communications and throughout module they became less confident in taking part in online discussions. Students in case study 8 also became less confident about working and learning online, while case study 7 students reported increased divergence in their confidence to work and learn online. However, case study 7 students did register communicating online as a large positive motivating factor, which suggests an openness to using online communications (perhaps partly from their use of Blackboard on other modules). Case study 8 students, who had generally no other experience of using a VLE, ranged in their opinions on how useful online discussion, or indeed face-to-face discussion could be to their learning.

We know that females in case study 7 and English as a second language speakers in case study 8 accessed the VLE more (than males and native English speakers respectively) so assume they found the VLE resources useful. However, we can also deduce that the lack of confidence in their subject and their ability may have been a contributing factor to in the use (or lack of use) of online communications. Cultural differences, including language competence according to Goodfellow et al (2001) are also another likely explanation for low levels of participation in online discussion.

3. How much time (online and offline) do students spend working on VLE modules? What resources, including the VLE kit, are the students making use of and what patterns of use can be identified?

Few student diaries were completed during this study so an accurate picture of time spent online and offline cannot be given. However, VLE tracking data does give us some indication of online use and the module outlines some indication of time spent offline.

Case study 7 students spent most of their time working outside of the VLE. Many of them used email within Blackboard to communicate with group members – to what extent remains unknown as Blackboard does not keep any record of email use. Time spent on group projects may have been spent working collaboratively or independently and will have involved some online work (to research topics, refer to data, news items etc.) but this would have been outside of the VLE. 44.6% of the students accessed Blackboard before the beginning of the module. Although 9.8% of students never accessed the VLE at all, 86.5% of them accessed the VLE over 10 times and 66.9% accessed it over 50 times.

For case study 8 students' offline study would have included a one and a half hour lecture and a one and a half hour seminar per week. Course work, which accounted for 30% of assessment involved independent research and an analysis of macroeconomic aggregates that will have involved some online research (some of which could be accessed from the VLE). The tutor had provided a comprehensive range of materials on the VLE including lecture notes, seminar problems and solutions, online quizzes and weblinks. 12.5% of students never accessed the VLE, 83.9% accessed it over 10 times and 53.5% over 50 times.

As previously mentioned, both modules largely used the VLEs as resource bases to convey course materials (such as lecture notes, seminar problems, quizzes etc for case study 7) and course information, such as assessment information and criteria. Both modules used email through the VLEs, and there is evidence in case study 8 that this was largely used for one to one communication with the tutor.

4. How do students choose to communicate – how, when and why – and for what purposes? How do the VLE tools support this?

The main purposes for communication in both case studies included:

- Individual student queries about assignments, content (e.g. explanations of economics models) generally via email (some more one-to-one discussion took place on case study 8's discussion board)
- Contacting each other to organise group work via email (case study 7)
- Collaboration in specific tasks for group work via email (case study 7)
- Updating the tutor and raising issues about group work progress via email (case study 7 student group managers)
- Limited participation in tutor-led discussion (case study 8).

As explored in the previous section we know the VLEs in both case studies were largely used as a resource base. We also know that the group discussion areas in case study 7 were not set up as planned, and as Blackboard keeps no record of email we do not know to what extent students used email to collaborate. In contrast case study 8 did have online discussion set up but use of this was limited and the purpose of communication here mixed, with some tutor-led discussion and some one-to-one discussion with the tutor. The role of the tutor and students is explored in more detail below.

5. *Who is/what is the role of the tutor? What is the role of the student? How do these relate to the implicit, explicit and actual model of learning? How does it relate to student participation in the VLE? Is it possible to identify issues around authority, for example, of knowledge, of expertise and teacher-student communications, in relation to VLEs?*

The expectation that student and tutor roles will need to evolve and move away from the traditional information & transmission approach to teaching (Prosser & Trigwell, 1999) in order to be successful in adopting a networked learning or e-learning design have been well documented (Goodyear, 2001, Jones, 2000). Armitage & O'Leary (2003) note that e-learning itself does not automatically signal role changes unless this is part of the educational philosophy underpinning the design of the course. Goodyear (2001) describes a number of indicators for how both tutor and student roles are likely to change. These include the tutor moving from the role of an oracle and lecturer to that of a consultant, guide and resource provider; tutors becoming designers of learning experiences rather than content providers and moving from total control of the learning environment to sharing this with the student as fellow learners. In addition he notes that teacher-learner power structures might be expected to erode as students move from passive consumers to constructors of their own knowledge.

In case study 7 the tutor did have a facilitation role and students viewed themselves as independent learners. The explicit learning model of the module was one which defined the tutor-student relationship as described. However, the module had been run previously without the support of a VLE and as explored earlier, the use of the VLE did not fully reflect this learning model, suggesting the VLE or the use of the VLE did not play a significant part in forming or changing roles.

In case study 8 the tutor was seen as having a strong leadership and expert role which does not reflect Goodyear's (2001) indicators. The content of the online discussion reflects some issues of communication and some potential issues of authority, with a mixed range of language by the tutor being used (ranging from the formal and authoritative to the informal). Few students responded and where they did they used a range of formal and informal language to do so. Case study 8 online discussion has been explored in detail using discourse analysis (Cook and Jacobs, 2003) and conclusions includes issues of:

- students not trusting each others' authority (so peer-peer discussion was not seen as valuable)
- the tutor not trusting the students' capacity to learn the subject in their own way (pushing him into a role as the authoritative source)
- the authority of the institution in ensuring there were certain kinds of assessment (positioning the tutor in the role of an agent in the assessing body).

According to Ting-Toomey (1999) cultural communication styles associated with learning cultures differ across major linguistic groupings and differences in teaching modes and attitudes to learning will have a bearing on online communication. These differences range between 'high context' communication cultures, where individuals manage large amounts of background information which is implicit in communication, to 'low context' communication cultures where lower amounts of background information is managed by individuals and background information must be made explicit in an interaction. English, German and European speakers are situated on the high context continuum, with generally learner-centred teaching, a competitive attitude to learning and relaxed modes of address. African, Asian language and Chinese speakers are at the low context end of the scale, with teacher-led teaching, a respect for designated authority, a range of learning attitudes including story telling (African speakers), groupwork (Asian language and Chinese speakers) and competitive (Chinese speakers) and formal modes of address. In case study 8, 60% of students received their secondary education outside of Europe and America and 42.5% are non-English or European language speakers; the tutor was also from non-UK country where communication is described by Ting-Toomey as 'relationship-centric'. The differences in the students' (and the tutor's) prior education and teaching mode, learning attitudes and modes of address go in some way to explain why online communications for this module were particularly challenging, and why there may have been some issues over roles and authority.

6. How do students and tutors use and perceive the various forms of support available? How important do tutors think support is and what is their understanding of student preferences?

The tutors in both case studies were clearly viewed by the students as vital in their learning process and as providing an important source of support. Students from both case studies had been provided with an induction to their VLE either by the tutor (case study 8) or the department (case study 7). Although few students voiced concerns about using their VLE, both sets of students became less confident over the course of the module about taking part in online discussions and case study 8 students became less confident about working and learning online. The student VLE inductions were largely focussed on the technology, and not necessarily online study skills which suggests a potential gap in student support.

The tutors had access to a wide range of support, including colleague support (used by case study 7 tutor and given by case study 8 tutor). Both tutors, however, had issues of time including taking up support and training, and in developing their VLE materials. The tutor from case study 8 recognised a need to see how other people were using VLEs.

5. Conclusions

Culturally diverse students

The UK Economics student cohort consists of 32.4% non-UK students, 12% mature students and 67% male students (HESA, 2001). Our two case studies involved large groups of students (216 and 97 respectively) with a culturally diverse background, the majority of case study 8 students and just under half of case study 7's students with a first language other than English. Almost half of case study 8 students were mature (over 21 years) and both case studies approximately reflected the national economics student cohort of a 7:3 male to female ratio.

Different learning models

Both case studies presented very different learning models, with case study 7 focusing on collaborative learning in groups and case study 8 following a more traditional lecturer-led format. However, both courses explicitly undertook to involve students actively in their learning and to use VLEs to involve students in collaboration and discussion, as well as to provide resources.

VLEs used a resource-base

The learning models for both case studies were not fully translated to the online environment, with both case studies experiencing some difficulties with online communication. Primarily the VLEs were used by students to access course information and materials. Both courses to use the VLE to support teaching large groups of students by providing the students with extra support and contact, and reducing their own administrative load.

Working online positive motivator

Working online and help and support from the VLE registered as large positive motivators for both case studies, and many students commented on the usefulness and motivating effect of having module resources at their finger-tips when they wanted to use them. However, many students became less confident over the course of the modules, about learning and communicating online.

Issues of confidence?

Students who were motivated in their subject and confident in themselves to do well in the module had higher levels of confidence in using a VLE. Females and students with a first language other than English were less confident in both themselves and their subject and made greater use of VLEs (females in case study 7 and non-native English speakers in case study 8). Along with the many positive comments about using a VLE this goes some way to suggest that VLEs can provide useful support.

Issues of communication, roles and authority

Cultural differences, including language competence, previous teaching and learning modes and attitudes, and modes of address in our case studies contributed to difficulties in online communications, for example low levels of participation in online discussion in case study 8.

Tutors in our case studies did not necessarily take on the roles of guides or facilitators as a result of their VLE learning models. In case study 7 the tutor had a facilitation role and the students viewed themselves as independent learners, but this was intrinsic to the learning model and not attributable to the VLE. In case study 8, conversely the tutor had a strong leadership and expert role, reflecting a traditional learning model. Cultural differences may have also contributed to issues over roles and authority within the VLE.

Support gaps

The VLE inductions for students were largely focussed on the technology, but students who were otherwise clearly motivated lost confidence in learning and communicating online, suggesting that they may not have had the necessary online study skills support.

Both tutors had access to pedagogical and technical support, including pedagogical support, but time issues prevented them from accessing it and developing their VLE materials. The tutor from case study 8 recognised a need to see how other people were using VLEs.

Where next?

The data collected from these two case studies is comprehensive and rich, and may still yield more interesting and informative findings. In particular the following issues would be worthy of further analysis:

- cultural, gender and age issues
- transferring a collaborative face-to-face learning model to an equivalent online model.

Further data collection is also being considered including:

- expanding the number of case studies to provide more generalisable and significant data and information
- revisiting the students in our 2 case studies in the coming two years and comparing their later experiences and attitudes of VLEs.

As a result of this study and in order to enhance and develop our support of Economics lecturers, Economics LTSN is:

- commissioning new case studies to be available online, including ones that give examples of innovative and successful use of online communications, support of culturally diverse students and supporting students' online study skills.
- developing a new paper-based and online chapter of our Handbook for Economics lectures, focussed on online communications.
- developing our VLE workshops for lecturers to reflect our findings.
- reviewing how we might best support lecturers in their support of Economics students' online study skills.

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Appendix A: Case study 7 tables

Table 1, case study 7
Percentage of students by number of accesses to VLE

	Total hits/accesses %	Number of content hits/accesses %	Number of communication hits/accesses (articles read/posted) %
<1	9.8	9.8	71.4
1-10	3.6	3.6	22.3
11-50	19.6	21.4	4
51-100	33.0	32.1	3
101-200	21.4	6.3	0
201-300	7.1	2.7	0
301-400	2.7	3	0
401-500	1.8	0.9	0
>500	0.9	0.9	0

Table 2, case study 7
All student accesses to VLE by sex

		N	Mean	Std Deviation	t	df	Sig (2-tailed)
Total hits	F	69	4.72	.80	-2.619	96	.010
	M	29	3.84	.126			
Number of content accesses	F	69	.4.69	.772	-2.894	96	.005
	M	29	3.75	.733			

(1<0, 2=(1-10), 3=(11-50), 4=(51-100), 5=(101-200), 6=(201-300), 7=(301-400), 8=(401-500), 9>500)

Statistic (Independent sample t-test) shows that the average female students access to Blackboard significantly more than that of male students, both in total accesses ($p=.01$) and number of contents accesses ($p=0.005$).

Table 3, case study 7
Percentage of all student accesses to VLE by time period

First access	%
Pre-module 2 nd Feb and before	44.6
Week1 3 rd -9 th Feb	32.1
Week2 10 th feb – 16 th feb	2.7
Week3 17 th feb – 23 rd feb	3.6
Week4 24 th feb – 2 nd March	2.7
Week5 3 rd mar – 9 th mar	0.9
After Week 5	3.6
Never accessed	9.8

Table 4, case study 7**Percentage of all student accesses to VLE by day of week and by time of day**

Day	% of hits/accesses
Mon	19.9
Tues	21.1
Weds	16.4
Thurs	15.3
Fri	17.3
Sat	5.0
Sun	5.1
Time of day	% of hits/accesses
10-11am	6.0
11am.-12pm	8.1
12pm-1pm	9.8
1pm-2pm	12.3
2pm-3pm	11.4
3pm-4pm	11.0
4pm-5pm	9.4
5pm-6pm	5.9
6pm-7pm	5.3
7pm-8pm	3.7
8pm-9pm	3.3
9pm-10pm	3.6
10pm-11pm	2.2
11pm-12am	1.3

Table 5, case study 7**Blackboard support by percent**

Question 14 (questionnaire1) and question 4 (questionnaire2):

*What support do you think is available for you in working with Blackboard?**What support was available for you in working with Blackboard?*

What type of support...	is available ?(Q1) %	was available?(Q2) %
Academic support	8.1	11.5
Support Staff	12.1	7.7
Peers	2.0	
Textual	2.0	7.6
Study support from the VLE content	31.3	30.7
Little	1.0	3.8
Self	1.0	
Easy to use	4.0	
Don't know	6.1	3.8
None	6.1	11.5
lots	2.0	
Other	4.0	
Did not answer	23.2	30.8

Table 6, case study 7**Blackboard use before module percent by number of hours**

Questionnaire 1; questions 6 and 7:

Have you used Blackboard before beginning this module?

If yes, how much time have you spent using Blackboard before starting this module? ____ hours approx

Have you used Blackboard before the beginning of this module?	%
Yes	87.6
No	12.4
If so, for how many hours?	% of those answering yes
<=1 hour	6.3
>1-5 hours	36.7
>5-10 hours	20.3
>10-20 hours	24.1
>20 hours	12.7

Table 7, case study 7

Confidence and first language, age and sex significance

Questionnaire 1; question 5:

Please read each statement and tick the box in the column that is closest to your view (very confident, confident, some confidence, little confidence, no confidence)

How confident are you about?:		Mean	Std Deviation	t	df	Sig (2-tailed)
Obtaining information via Blackboard	English	1.38	.80	2.342	97	.021
	n_English	1.05	.126			
The subject you are studying in this module	<21	.62	.770	-3.83	97	.003
	21-41	1.31	.630			
The subject you are studying in this module	M	.81	.772	2.362	96	.02
	F	.41	.733			

Statistics (independent sample T-tests) show that male students were more confident about the subject they were studying than female students ($p=.02$), students at age between 21 to 41 were much more confident than those younger than 21 ($p=0.003$). Statistics also show that those whose first language is English reported more confidence in obtaining information via Blackboard than those whose first language is not English ($p=0.21$).

Table 8, case study 7**Motivation by percent**

Questionnaire 1; question 8:

Please read each of the following statements and tick the box in the column that is closest to our view (strongly agree, agree, neither agree or disagree, disagree, strongly disagree)

	% Strongly agree	% agree	% neither agree or disagree	% Disagree	% Strongly disagree
The most important thing is getting good marks in assessment(s)	84.7	15.3	0	0	0
I am really worried that I may not do well in this module	6.2	21.6	47.4	22.7	2.1
I am interested in the subject matter of this module	5.1	55.1	29.6	8.2	2.0
I am doing this module to help me achieve my personal goals	14.7	49.5	21.1	9.5	5.3
I am good at this subject and expect to do well	5.2	42.3	47.4	4.1	1.0
It's important to do better than others in the group	11.2	29.6	44.9	10.2	4.1
I am only doing this module because I need the credits	7.2	18.6	43.3	24.7	6.2

Table 9, case study 7**Motivation and first language significance**

Questionnaire 1; question 8:

Please read each of the following statements and tick the box in the column that is closest to our view (strongly agree, agree, neither agree or disagree, disagree, strongly disagree)

	First language	Mean	Std Deviation	t	df	Sig (2-tailed)
I am really worried that I may not do well in this module	English	-.28	.787	-2.656	95	0.009
	N_English	.19	.932			
I am good at this subject and expect to do well	English	.59	.659	2.039	95	.044
	N_English	.30	.741			

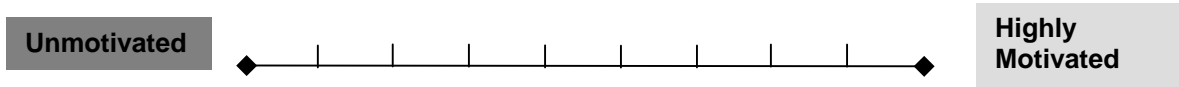
Independent sample T-test show that students whose first language is English are less worried they may not do well in the module than those whose first language is not English ($p=0.009$), and more confident about the subject and expect to do well ($p=0.044$).

Table 10, case study 7

Motivation ratings by percent

Questionnaire 1; question 9 and questionnaire 2; question 1:

Please mark an X on the line below to indicate how motivated you are towards this module



Motivation (1=Unmotivated, 10=Highly motivated), (all respondents included)

	0	1	2	3	4	5	6	7	8	9	10	Mean score
%												
Beginning of module	0	1.0	1.0	6.2	5.2	15.5	14.4	22.7	19.6	10.3	4.1	6.85
End of module	0	4.0	0	8.0	8.0	4.0	16.0	32.0	12.0	16.0	0	6.74

A paired-sample t-test was conducted to evaluate the impact of the intervention on students' motivation before and after the module, although the mean went slightly down over the time (0.41), tests showed no significant difference between students' motivation at the beginning (M=7.375, SD=1.4480) and at the end (M=6.958,SD=1.4216) of the module. (t(11)= 0.703, p> 0.05)

Table 11, case study 7**Confidence and motivation at the beginning of the module correlation**

Questionnaire 1: question 5 and question 8:

*Please read each statement and tick the box in the column that is closest to your view (very confident, confident, some confidence, little confidence, no confidence)**Please read each of the following statements and tick the box in the column that is closest to our view (strongly agree, agree, neither agree or disagree, disagree, strongly disagree)*

Preparedness	Using the Internet	Working and learning online	Finding your way around Blackboard	Obtaining information via Blackboard	Taking part in online discussions	The subject you are studying in this module
Motivation						
The most important thing is getting good marks in assessment(s)	.76	.71	.103	.132	-.062	-.88
I am really worried that I may not do well in this module	-.180	-.179	-.281**	-.201*	-.87	-.335**
I am interested in the subject matter of this module	.006	.002	.83	.059	.042	.114
I am doing this module to help me achieve my personal goals	-.049	-.066	-.028	-.051	.161	.239*
I am good at this subject and expect to do well	.199	.165	.161	.17	.209*	.499**
It's important to do better than others in the group	.167	.063	.010	-.066	.035	.127
I am only doing this module because I need the credits	-.031	-.113	-.063	-.016	-.061	-.222*

(N=99, *<0.05, **<0.01)

Statistic tests (Pearson Correlation) show some significant correlation between confidence and motivation. Those who worry about 'not do well in this module' show lower confidence about 'finding way around blackboard', 'obtaining information via Blackboard' and 'the subject studied in this module'. Those who agree 'doing this module to help them achieve their personal goals' are more confident about 'the subject you are doing in this module'. Those who believe they are good at this subject and expect to do well' rate higher level of confidence about 'taking part in online discussions' and 'the subject studied in this module.' Those who are doing ' this module only for the credits' report lower level of confidence about the module they are studying.

Table 12, case study 7
Motivation factors by percent

Questionnaire 2; question 2

*Did any of the following affect your motivation on the module to date? Please read each factor and then decide if it affected your motivation either positively or negatively. If so, put a circle around the word **positive** or **negative**. Leave both blank if your motivation was not affected either way.*

Motivation Factor	Negative %	Neither %	Positive %	Mean Positivity (Negative=-1, neither=0, Positive=+1)
Personal needs	3.8	15.4	80.8	.77
Fellow students	30.8	11.5	57.7	.27
Tutor	0.0	15.4	84.6	.85
Course admin/regulations	26.9	26.9	46.2	.19
Physical location	38.5	26.9	34.6	-.04
Help and support form Tutor/Other	19.2	15.4	65.4	.46
Help and support from (VLE) or Computer	15.4	11.5	73.1	.58
Working online	0.0	7.7	92.3	.92
Communicating online	19.2	11.5	69.2	.50
Access to computer	42.3	15.4	42.3	.00
Technological issues	38.5	26.9	34.6	-.04
Other	7.7	92.3	0.0	-.8

('means' are from one-sample T-test)

Appendix B: Case study 8 tables

Table 1, case study 8
Percentage of students by number of accesses to VLE

	Total hits/accesses	Number of content hits/accesses	Number of communication hits/accesses (articles read/posted)
<1	12.5%	12.5%	50.0%
1-10	3.6%	5.4%	21.4%
11-50	30.4%	30.4%	17.9%
51-100	23.2%	25.0%	10.7%
101-200	23.2%	23.2%	0
201-300	7.1%	3.6%	0
301-400	0	0	0
401-500	0	0	0
>500	0	0	0

Table 2, case study 8
All student accesses to VLE by first language

		N	Mean	Std Deviation	t	df	Sig (2-tailed)
Total hits	English	17	2.88	1.453	-3.86	38	.004
	N-English	23	4.17	1.193			
Number of communication hits	English	17	2.82	1.468	-3.000	38	.005
	N-English	23	4.04	1.17			

(1<0, 2=(1-10), 3=(11-50), 4=(51-100), 5=(101-200), 6=(201-300), 7=(301-400), 8=(401-500), 9>500)

Independent sample t-test shows average of non-English first language speaking students access to WebCt significantly more than that of students whose first language is English, both in total number ($p=0.004$) and the number of communication ($p=0.005$).

Table 3, case study 8
Percentage of all student accesses to VLE by time period

First access	%
Pre-module 2 nd Feb and before	0
Week1 3 rd -9 th Feb	8.9
Week2 10 th feb – 16 th feb	28.6
Week3 17 th feb – 23 rd feb	26.8
Week4 24 th feb – 2 nd March	8.9
Week5 3 rd mar – 9 th mar	5.4
After Week 5	8.9
Never accessed	12.5

Table 4, case study 8**WebCT support by percent**

Question 14 (questionnaire1) and question 4 (questionnaire2):

*What support do you think is available for you in working with WebCT?**What support was available for you in working with WebCT?*

What type of support...	is available? (Q1) %	was available? (Q2) %
Academic support	10.0	28.1
Support Staff	0	3.1
Peers	0	3.1
Textual	5.0	9.4
Study support from the VLE content	25.0	50.0
Little	0	0
Self	0	0
Easy to use	0	0
Don't know	2.5	0
None	0	0
lots	2.5	0
Other	12.5	0
Did not answer	45	12.5

Table 5, case study 8**WebCT use before module percent by number of hours**

Questionnaire 1; questions 6 and 7:

*Have you used WebCT before beginning this module?**If yes, how much time have you spent using WebCT before starting this module? _____ hours approx*

Have you used WebCT before the beginning of this module?	%
Yes	20.0
No	80.0
If so, for how many hours?	% of those answering yes
<=1 hour	37.5
>1-5 hours	12.5
>5-10 hours	0.0
>10-20 hours	25.0
>20 hours	25.0

Table 6, case study 8**Confidence in the subject they are studying by sex**

Questionnaire 1:

Please read each statement and tick the box in the column that is closest to your view (very confident, confident, some confidence, little confidence, no confidence)

How confident are you about?:		Mean	Std Deviation	t	df	Sig (2-tailed)
The subject you are studying in this module	F	.93	.675	2.272	38	.029
	M	.38	.768			

Statistic (independent sample T-test) shows that male students were more confident about the subject they were studying than female students ($p=0.029$).

Table 7, case study 8**Confidence correlation over the module**

Questionnaire 1: question 5 and questionnaire 2: question 3:

Please read each statement and tick the box in the column that is closest to your view (very confident, confident, some confidence, little confidence, no confidence)

How confident are you about?:	Using the Internet	Working and learning online	Finding your way around Blackboard	Obtaining information via Blackboard	Taking part in online discussions	The subject you are studying in this module
Using the Internet	.624**	.581*	.127	.443	.295	.451
Working and learning online	.377	.648**	.274	.419	.423	.248
Finding your way around Blackboard	.154	.342	.695**	.663**	.019	.397
Obtaining information via Blackboard	.117	.283	.469	.544*	.190	.48
Taking part in online discussions	.79	.063	.664**	.663**	.523*	.052
The subject you are studying in this module	.563*	.230	.009	.175	.046	.485

* and ** denote significant correlations between questionnaire 1 and questionnaire 2 confidence questions (respondents answering both questionnaires (N=16), $* < 0.05$, $** < 0.01$). This is very different from case study 7, statistical tests (Pearson Correlation) results for case study 8 show a big number of significant correlation between confidence at the beginning and that at the end of the module. Paired sample T-test found no significant difference.

Table 8, case study 8
Motivation by percent

Questionnaire 1; question 8:

Please read each of the following statements and tick the box in the column that is closest to our view (strongly agree, agree, neither agree or disagree, disagree, strongly disagree)

	% Strongly agree	% agree	% neither agree or disagree	% Disagree	% Strongly disagree
The most important thing is getting good marks in assessment(s)	85.0	15.0	0	0	0
I am really worried that I may not to do well in this module	2.6	10.5	34.2	39.5	13.2
I am interested in the subject matter of this module	40.0	42.5	17.5	0	0
I am doing this module to help me achieve my personal goals	45.0	50.0	5.0	0	0
I am good at this subject and expect to do well	10.0	35.0	50.0	5.0	0
It's important to do better than others in the group	15.0	17.5	47.5	17.5	2.5
I am only doing this module because I need the credits	12.5	7.5	22.5	45.0	12.5

Table 9, case study 8
Motivation and first language significance

Questionnaire 1; question 8:

Please read each of the following statements and tick the box in the column that is closest to our view (strongly agree, agree, neither agree or disagree, disagree, strongly disagree)

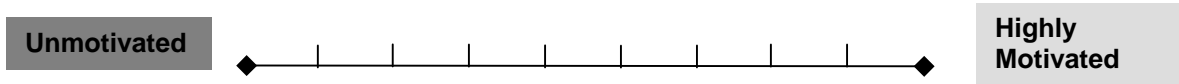
	First language	Mean	Std Deviation	t	df	Sig (2-tailed)
I am really worried that I may not do well in this module	English	-.88	.781	-2.363	36	.024
	N_English	-.19	.981			

Independent sample t-test shows that student whose first language is English are less worried about not doing well in the subject than those non English first language speaker (p=0.024).

Table 10, case study 8
Motivation ratings by percent

Questionnaire 1; question 9 and questionnaire 2; question 1:

Please mark an X on the line below to indicate how motivated you are towards this module



Motivation (1=Unmotivated, 10=Highly motivated), (all respondents included)

%	0	1	2	3	4	5	6	7	8	9	10	Mean score
Beginning of module	0	4.0	0	8.0	8.0	4.0	16.0	32.0	12.0	16.0	0	7.63
End of module	0	0	0	0	0	35.5	12.9	16.1	16.1	19.4	0	7.05

A paired-sample t-test was conducted to evaluate the impact of the intervention on students' motivation before and after the module, although the mean of the second value was slightly lower than the first one, tests show no significant difference between students' motivation before (M=7.583, SD=1.3286) and after (M=7.000,SD=1.446) module. $t(11) = 1.521, p > 0.05$

Table 11, case study 8
Motivation by age significance

age	Mean	Std Deviation	t	df	Sig (2-tailed)
<21	7.238	1.1578	-2.518	33	.017
21-41	8.214	1.0690			

Independent sample t-test reports that mature students (age between 21 to 41) show more motivation than younger student (age below 21) ($p=0.017$).

Table 12, case study 8**Confidence and motivation at the beginning of the module correlation**

Questionnaire 1: question 5 and question 8:

*Please read each statement and tick the box in the column that is closest to your view (very confident, confident, some confidence, little confidence, no confidence)**Please read each of the following statements and tick the box in the column that is closest to our view (strongly agree, agree, neither agree or disagree, disagree, strongly disagree)*

	Using the Internet	Working and learning online	Finding your way around WebCT	Obtaining information via WebCT	Taking part in online discussions	The subject you are studying in this module
The most important thing is getting good marks in assessment(s)	.056	-.80	-.101	-.17	.135	.143
I am really worried that I may not to do well in this module	.013	-.85	.006	-.139	-.256	-.598**
I am interested in the subject matter of this module	.258	.352*	.311	.272	.336*	.577**
I am doing this module to help me achieve my personal goals	-.125	-.128	-.059	-.093	.017	.000
I am good at this subject and expect to do well	.367*	.224	.212	.366*	.89	.644**
It's important to do better than others in the group	.005	-.050	.217	.119	.190	.326*
I am only doing this module because I need the credits	.023	-.094	-.056	-.056	.103	-.051

(N=39, * $p < 0.05$, ** $p < 0.01$)

Table 13, case study 8
Motivation factors by percent

Questionnaire 2; question 2

*Did any of the following affect your motivation on the module to date? Please read each factor and then decide if it affected your motivation either positively or negatively. If so, put a circle around the word **positive** or **negative**. Leave both blank if your motivation was not affected either way.*

Factor	Negative %	Neither %	Positive %	Mean Positivity (Negative=-1, neither=0, Positive=+1)
Personal needs	6.3	21.9	71.9	.66
Fellow students	12.5	28.1	59.4	.47
Tutor	3.1	3.1	93.8	.91
Course admin/regulations	18.8	28.1	53.1	.34
Physical location	18.8	40.6	40.6	.22
Help and support form Tutor/Other	6.3	28.1	65.6	.59
Help and support from (VLE) or Computer	6.3	0	93.8	.88
Working online	9.4	21.9	68.8	.59
Communicating online	28.1	34.4	37.5	.09
Access to computer	18.8	34.4	46.9	.28
Technological issues	25.0	37.5	37.5	-.13
Other	3.1	78.1	18.8	.16

('means' are from one-sample T-test)