

Evaluating an Open University Web Course: Issues and Innovations

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Abstract

In 1999 the UK Open University (UKOU) piloted an innovative web based entry level course which provided an introduction to the Internet and computers. The course represents the UKOU's first large scale offering which is solely web based, with online tuition. The course was piloted with 850 students, and extensive evaluation was undertaken. This paper identifies six main issues which affected student's satisfaction and performance on the course: the skills taught in the course; the level of starting knowledge; the use of computer conferencing; participation in online group activities; online tutor support; and time associated with studying. In general the course was successful and student satisfaction was high amongst those who completed it. In 2000 the course is being presented to over 12,000 students.

Key words

web-based teaching, computer conferencing, collaborative work, online tutoring, virtual university, student experience

Introduction

This paper examines the issues which arose from the evaluation of the pilot study of an innovative, on-line course delivered by the UK Open University (UKOU). The evaluation was by means of three web-based questionnaires given during the course and follow up telephone interviews.

The course was *T171 You, your computer and the Net*. It is an entry-level course about information and communication technology (ICT), delivered entirely over the web with online tuition. The course is studied part-time over 32 weeks, and counts for 30 CATs points. The course consists of three modules, and has been described in detail elsewhere (Weller 1999). It was piloted in 1999 with 850 students, and in 2000 has 12,000 students registered.

The course is innovatory for the UKOU in a number of ways:

- there is no provision for face-to-face tutorials
- the course content, apart from two set books, is entirely on the web
- the combination of ICT skills teaching to complete beginners, online group work, and very large scale online delivery (even by OU standards) is probably unique in the world.

1. The Skills Issue

Many students felt some dissatisfaction about the lack of skills training they received on the course. The first module gives students skills in using common software applications, creating web pages, as well as more general academic skills. The second two modules of the course use the history of the computer and the Internet to teach about the technology and its impact upon society. A good two thirds of the 150 or so students who filled in questionnaires found this balance between the 'how' and the 'what' very appropriate.

The course is about the personal computer and the Internet and what these technologies can do, so there is a need to teach skills in searching, managing, browsing and creating information. But these skills are not the traditional stuff of an undergraduate degree. So on the one hand, there is the tacit academic view that credit is not given for skills but rather for understanding; on the other, there is demand from students for job-related skills. This tension between the training and academic level arises in many ICT courses. As an entry-level course which can count toward a university degree, T171 needed to be of a suitable academic standard. However many students wanted to learn software skills, and were interested in this one course, and had no intention of studying further.

Module one of the course has an activity based approach, and introduces students to common applications such as word processors, spreadsheets, graphics etc. It also gets students online, using e-mail, and writing web pages. At one level this can be seen as training, but it is integrated with academic material about group formation, communication, clients and servers, and so on. There is also a strong emphasis on learning to learn, so students new or returning to study can develop their study skills.

The level of computer skills amongst the general population is constantly improving, so what a course needs to include one year may become assumed in later years. This is particularly true of a level 1 course delivered via this medium. Many students were completely new to study, and to the medium itself, and some account must be taken of this in the achievements the course recognises. People are very familiar with print and text, but not so with web sites. Thus in some respects the course is introducing people to a new learning medium.

Many students feel they want the skills training because this will help them with employment. However, it is increasingly the case that employers are looking for more than just skills in one software package, but rather transferable skills, or at least evidence of a broader knowledge. T171 tries to maintain a balance, in that it provides sufficient skills, such as basic HTML, and it gives students the context and opportunity to develop these further. By teaching students concepts as opposed to processes, their software skills can go beyond that which is taught explicitly in the course, and indeed beyond what they would gain from a straightforward training course. This was borne out by the sophisticated web sites many students created for

their end of course assessment. Students also gain an appreciation of the wider implications and possibilities of these technologies.

As with many courses, students' expectations about the course play a critical role in their ultimate satisfaction. For the 2000 presentation the preparatory material states very clearly that students should consider T171 an academic course, and not a training course.

2. The Novice Issue

This course requires no prerequisite knowledge and no previous experience with the computer. Yet amongst the first cohort of students there was a very wide range of abilities: from those who had built their own computers to those who had bought their first computer specifically for this course. People have many reasons for taking courses, sometimes it is to gain knowledge about a totally new subject, to gain accreditation for knowledge they already have, to work towards a specific degree, or simply to consolidate knowledge they have gained on a 'piecemeal' basis over the years. There is an issue therefore of trying to keep many different types of students satisfied.

The course was created deliberately as one with broad appeal, both in terms of computing experience and subject area. In the pilot year the course mailing did not go out sufficiently early, which meant that computer novices did not have sufficient time to get comfortable using their PC before the course started. This meant that many students who were entirely new to computers went through a very steep learning curve at the beginning of the course. Some dropped out complaining that it was far too difficult; most of those who stuck with it until the end reported a tremendous sense of achievement. For the 2000 presentation students are provided with a preparatory activities booklet, and a much longer preparatory period.

At the other end of the continuum is the difficulty of keeping happy those students who already have a good grounding in this area. The course tried to achieve this through several means. The first of these was the use of group work via computer mediated conferencing (CMC), which many students had not experienced before. The second was to provide a broad range of material to provide interest for the more technically advanced students in aspects they may not have considered before, such as the social impact of the technologies, or the management structures of ICT companies.

In addition, the assessment, particularly in modules 2 and 3 was quite open-ended. Students chose from one of two titles, and were asked to produce a 'web-essay'. Students with a good grounding in the material already could use the web as a research tool, and integrate images and links into their document. Many students found the assessment a rewarding task to perform.

3. The Conferencing Issue

There has been a good deal of evaluation of the use of computer conferencing as a means of interaction between students and tutors on distance education programmes over the last ten years (e.g. Mason, 1998; Salmon, 1999; Wegerif, 1998). One way of characterising its use as an educational medium, is to say that its strengths are also its weaknesses:

- it doesn't require fixed times for study, but consequently other demands on one's time easily take precedence
- it maintains a record of all interactions – but this makes many people wary of committing their ideas to such a public forum
- it allows everyone to be 'heard', but this leads to an overload of messages which many find completely overwhelming.

One of the paradoxes of this medium which is very apparent in the student feedback of this course lies in the disparate perceptions that on the one hand, there were too many messages or that, on the other, there was too little participation. Nevertheless, as is usual with computer conferencing, there were many students who found the medium very satisfying, and a vital element in their learning experience.

The dissatisfactions expressed about computer conferencing on the course were sometimes contradictory. Newcomers to the computer tended to find the number of messages overwhelming and the competence and tone of the messages from experienced computer users very off-putting. At the same time, one of the biggest complaints about the tutor group conferences was the lack of participation.

The course conferencing environment consisted of tutor group conferences in which each tutor and the 12-15 students assigned to every tutor were expected to raise course related issues and problems. In addition there were course-wide subject conferences to discuss the major topics in each module and technical support conferences on topics such as word processing, networking, databases etc, moderated by specialist staff. Some of the conferences worked better than others and what some students regarded as "life-saving", others found off-putting. A number of students suggested that those new to computing have their own groups and conferences, whereas many students found the support of the experienced students invaluable.

A strong conferencing element is an integral part of the course, given its aim of introducing students to computers and the Internet. The use of conferencing was an important means of engaging students, as well as the means through which they could gain support. Sending and receiving messages was thus the first activity in module one.

For many people this is a new medium, and they are learning the appropriate skills. As many students are new to study, they felt frightened of missing something so read every message. Although the course materials stressed that students were not expected to read all of the messages or all of the conferences, it may be that some students can only develop the confidence to do this through experience.

Active discussion has long been one of the aspects which is difficult to provide in distance education, with tutorials and summer schools being the usual means of achieving this. The course wide subject conferences were a good means of discussing issues such as the role of Microsoft in the industry. As well as providing further interest to the material this helps students test their understanding of concepts through dialogue, which can then be refined iteratively.

However, many UKOU students choose to study at a distance precisely because they prefer to work alone, so there is an issue as to what degree the course should force people to participate. As UKOU students are adults we preferred to give them the opportunity to do as much, or as little, conferencing as they wanted or needed.

4. The Online Group Work Issue

One of the central features of the traditional UKOU student support system is the face-to-face tutorial held in study centres around the country. This course is the first level one undergraduate course to dispense completely with face-to-face meetings. It does, however, include a number of group activities and an assignment requiring a group web page.

There is a whole research literature on group work as a method of teaching and learning (e.g. Tiberius, 1999) and a growing body of studies into its application in the online environment (McConnell, 1994; Hodgson and McConnell, 1995). There were many complaints about the group work demands on this course, stating that students did not want to participate in group activities, or that they are too difficult to perform via this medium.

These kinds of responses have been noted on other OU courses with a group work component (Mason, 1995; Thorpe, 1998). Nevertheless, feedback from modules two and three questionnaires contained many complaints from student that there was no group work.

The course aims to give students a taste of group working as one of the important features of networked computing. The group work aspect fulfilled a number of roles on the course. By getting students to engage in an activity using CMC in module one, it encouraged them to become familiar with the technology which would then be useful throughout the rest of the course. As the group activity was linked to assessment, it also meant students had to get used to coming online, and communicating with others. They were thus able, and willing, to ask for help and advice through the rest of the course from conference moderators, but more importantly from each other.

In conventional UKOU courses attendance at face to face tutorials varies but averages about 50%. Many students, for a variety of reasons, can never attend tutorials. Online tutoring allows all students to participate in the tutorial experience, and thus helps foster the sense of community.

It is also true however, that many students simply did not like this method of study. They much preferred the traditional UKOU course, with printed course material, face to face tutorials, summer schools and so forth. For such students it is debatable if online group work can ever effectively replace face to face meetings. While online tutoring is particularly appropriate for this course, it may not be the case for all courses. With a modular degree structure students can experience both types of course presentation, and may well find that they prefer one form over another.

5. The Tutoring Online Issue

Student surveys conducted by the Institute of Educational Technology over nearly thirty years demonstrate that the support and guidance of the tutor is a crucial component in students' satisfaction with their learning experience, and this is true also for technology-based courses (Bates, 1995). So a course without face-to-face tutorials, which is trying to teach IT skills and expecting students to work collaboratively, is going to rely heavily on the quality of its tutors for the satisfaction and success of its students.

There is a whole category of adult distance learners who just want to get on with the materials in their own time and who rarely, if ever, contact their tutor. Another category, of about equal numbers, want a great deal of input from their tutor and constantly request more tutorials, more tutor comments in online conferences, more teaching, more controlling of overly talkative students and faster responses to emails. This course was no exception. Some tutors obviously provided exceptional support: prevented students from dropping out and made the course very enjoyable for others. Feedback from tutors on this, as on other OU courses which use computer conferencing, shows that tutoring online is perceived as more time consuming and that students are more demanding than on traditionally tutored courses (Mason, 1999). In anticipation of this, the course team prepared a range of materials for tutors (e.g. suggested activities for their tutor group conferences, some mid-course review materials and information to use in advising students what follow-on courses were available after completing this course). Tutors found most of these materials very useful, but they did not reduce the overall workload of tutoring the course.

It is evident from some of the student feedback that a number of tutors put little effort into moderating their tutor conferences. In some cases, students of such tutors got on with group working despite their tutor's absence, or they gravitated to other conferences where help and advice was available from central staff or from other students.

In the year 2000, more than 12,000 student have registered to take this course which has meant the demand to find good tutors with the necessary skills and provide the sufficient staff development has forced a quota to be placed on student numbers.

The tutor overload was experienced particularly during module one, when many students were encountering their initial problems, and as an activity based module it required greater input from the tutors than the other two modules. The content of module one has been reduced slightly for the 2000 presentation in recognition of this.

Again it is careful to frame expectations of students. The T171 tutors are only appointed part-time and so cannot act as computer technicians for students. Their role is to support the student and the academic material. It is the student's responsibility to have a functioning computer and Internet connection. The immediacy of the medium can sometimes lead to unrealistic demands on tutors. Some tutors arranged specific days of the week when they would check for messages, so that students knew that they may not get an immediate response, but they would get one by a specific day.

6. The Time Issue

It has become a commonplace to note that time has become a precious commodity. With the advent of telecommunications technologies, distance is less a barrier to education than it was before the networked personal computer. For many students with busy lives time has now replaced distance as the barrier in higher education.

Related to this, it is common in UKOU surveys for students to complain that courses take them longer to study than the 10-12 hours per week expected on a full credit course. It is particularly common for students to complain about the workload on new courses in their first year of presentation. This course was, again, no exception to the rule.

Students new to computing said they spent three, four or five times longer, especially in the early weeks of the course. In later modules, many students complained about the amount of reading, especially reading from a monitor. There is general agreement in the tutor feedback that module one was somewhat overloaded, as was the first assignment.

This course combines a number of elements notorious for taking large amounts of time:

- browsing the web
- interacting in computer conferences and working in groups
- getting to grips with a personal computer.

New learners in particular can spend a disproportionate amount of time on such tasks. The time pressures many students experienced raises the question of whether it is possible to teach IT skills to beginners at a distance. For many students, the course was evidently successful in this respect, but for others it was not. For the 2000 presentation instructions to students have been refined further and several time-saving options made available for them, for instance the provision of a standard template they can use for creating their group web page.

This returns us to the previous point regarding the need to retain academic credibility. Academic credit is awarded for the nature of the task, not the time taken. So for instance, if a student has spent a long time reading conference messages from other students, whilst this may have helped their understanding of the concepts, it is not activity which replaces the core course work.

The amount of time put in by students should not always be viewed as a negative factor. In many cases this reflects their enthusiasm for the course and the web in particular. This was

often exhibited in the resources they had located for the assignments and the design work put into them. This was not necessary to complete the assignment, but in doing so the student made the learning experience more rewarding and meaningful.

Conclusions

We have examined this innovative course from the students' perception of the issues raised by web-based teaching. The feedback from students indicates that the main issues were:

- the time it took to become competent with the PC, the Web and/or with computer conferencing
- the sense of accomplishment and satisfaction with the course and the experience it provides of the whole ICT world
- the appropriateness or not, of teaching ICT skills and of working in online collaborative groups.

The factors which most affect students' satisfaction relate to:

- the support of their tutor or other staff or students
- the amount of time, patience and motivation they have to devote to the course
- the extent to which the course content and presentation fit the students' expectations and learning style.

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