Student Responses to the Integration of WebCT into an Accounting Subject

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Abstract
How can WebCT be integrated into classroom teaching? How can it be used to enhance the learning experience of students? Students are often hesitant about using new technology, especially if they are asked to communicate publicly in some way. The use of WebCT provides students with valuable learning experiences as well as flexibility by offering a virtual classroom, wherever and whenever (within reason) that it suits the students. In addition, WebCT can enhance communication by encouraging online participation and overcoming students' fear of dealing with new technology. This paper presents the result of research based on student evaluations of the integration of the use of WebCT into Management Accounting. Student responses to the introduction of WebCT indicate four general trends. First, that there was overall satisfaction with the quality of the subject and the way in which substantial resources were offered online. Secondly, that the use of WebCT enhanced the learning experience and promoted independence, essential criteria for evolving lifelong learning skills. Thirdly, that WebCT made access to learning materials more readily suitable to the practical constraints of the learners' individual situations. Fourthly, that many students valued highly their relationship with the Management Accounting teaching team, whether in person in tutorials or lectures, or more distantly, as email or bulletin board correspondents.

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Student Responses to the Integration of WebCT into an Accounting Subject

by

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Abstract

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This paper presents the result of research based on student evaluations of the integration of the use of WebCT into Management Accounting. Student responses to the introduction of WebCT indicate four general trends. First, that there was overall satisfaction with the quality of the subject and the way in which substantial resources were offered online. Secondly, that the use of WebCT enhanced the learning experience and promoted independence, essential criteria for evolving life long learning skills. Thirdly, that WebCT made access to learning materials more readily suitable to the practical constraints of the learners' individual situations. Fourthly, that many students valued highly their relationship with the Management Accounting teaching team, whether in person in tutorials or lectures, or more distantly, as email or bulletin board correspondents.
Introduction

Computer mediated communication (CMC) is a potentially radical addition to the university student learning experience and has the ability to liberate teaching and learning from the constraints of time and distance. It has been defined as transmission and reception of messages using computers as input, storage, output and routing devices. CMC includes information retrieval, electronic mail, bulletin boards, and computer conference (Paulsen, 1996, p. 3).

As one of the most widely used platforms for the delivery of CMC, WebCT is changing teaching and learning methods by allowing students to access a larger range of interactive methodologies and by encouraging teachers to pay more attention to the instructional design of their courses (Berge & Collins, 1996; Salmon, 2000).

Thus, WebCT places different demands on its users than those experienced in traditional learning environments. While technical requirements involve both hardware and software, there is also the need for the user to become familiar with new ways of interacting, in particular the ability to communicate asynchronously, without interactive clues of face-to-face contact. Learners must actively change their "internal maps" of understanding (Jonassen, Davidson, Collins, Campbell, & Haag, 1995). This lack of these expressive behavioural cues is regarded by some users as a disadvantage but by others as an advantage. The former may view WebCT as inadequate because it enhances a "sense if depersonalisation" (Hiltz, 1986, p. 100), while the latter consider that it promotes freedom from the distraction of status and social games and thus allows them to "project their personalities in written texts" (Feenberg, 1987, p. 74).

The increased student access to educational materials provided by WebCT promotes its use in a flexible learning environment. As such, although a subject may be offered on campus, WebCT will enhance the learning mix and possibly substitute for some aspects of traditional delivery methods. This paper reports the introduction of WebCT into an undergraduate accounting subject at the University of Wollongong (UOW) in Australia.

The need for CMC

In 2000 the University of Wollongong opened three new campuses on the South Coast of New South Wales, with the strategy that they would be centres of flexible learning. Whereas this does involve some personal contact, much of the learning environment is provided online. Management Accounting II (ACCY211) was developed in a way that enabled it to be accessed from a distance by South Coast students while, at the same time, being offered on campus at Wollongong. (The home page for ACCY211 is shown in Figure 1.)

In 1998 and 1999 the ACCY211 coordinator had constructed web pages for other subjects taught on campus. These pages provided a notice board, email link, subject information, lecture notes and links to other related websites. The sites were created using Microsoft Word and then placed online using WS_FTP software.

During 1999, UOW purchased a site license for WebCT software to be used as the delivery medium for CMC. One of the major advantages of WebCT is that it provides a teaching/learning platform and a class management system in one packages. As with any new software, there is a steep learning curve attached, and in this case this applied to both the subject developer and the online user. Using WebCT, ACCY211 was developed for flexible delivery in 2000.

The ACCY211 Learning Environment

The learning environment for ACCY211 consisted of both live and online components, as shown in Table 1. In the design of the subject it was recognised that
The use of technology is secondary to well-designed learning goals and objectives. What distinguishes online instruction from entertainment or recreation, is the purposefulness of the designers and developers in provoking responses to the learning materials, context and environment (Berge, 1997, p. 1).

Figure 1: Home page for ACCY211

![Home page for ACCY211](image)

Management Accounting II
Department of Accounting and Finance, University of Wollongong, Australia

Check the Bulletin Board for announcements EVERY time you logon

- Subject Guide
  - (Including Assessment)
- Subject Material
- Communication
- Tools for Students
- Please complete this anonymous FEEDBACK SURVEY

This page has been accessed 09354 times.

The subject material was presented as twelve modules with students being expected to attend physically two one hour lectures each week and a one hour tutorial class. Support material for lectures and tutorials were provided online together with a "talk-through" step-by-step online workshop. Students were provided with self-tests for each module and were expected to complete an online quiz every two weeks covering two modules. Although these quizzes contributed towards the students' assessment, they were designed as an active part of the learning experience. During the quiz week, quizzes were available online from 9am Monday to 10 pm Friday; the quizzes were open book; students were allowed two attempts with their higher score being recorded, and the solutions were released online at the end of the week.

The developer discovered that online teachers/facilitators must not only acquire new skills, but also move towards experiencing metacognition - "what the learners think and feel about the subject under consideration" (Rogers, 1993, p. 216). To this end an extensive feedback survey was carried out concerning delivery and structure of ACCY211. The survey was posted on the home page with the request to "please complete this voluntary feedback survey". Questions consisted of both multiple choice and free response. Of the 189 students enrolled in the subject, 124 completed the survey.

Student responses can be grouped to indicate four general principles. First, that there was overall satisfaction with the quality of the subject and the way in which substantial resources were offered online. Secondly, that the use of WebCT enhanced the learning experience and promoted independence, essential criteria for evolving life long learning skills. Thirdly, that WebCT made access to learning materials more readily suitable to the practical constraints of the learners' individual situations. Fourthly, that many students' valued highly their relationship with the
ACCY211 teaching team, whether in person in tutorials or lectures, or more distantly, as email or bulletin board correspondents.

### Table 1: Nature of Components of ACCY211

<table>
<thead>
<tr>
<th>Component</th>
<th>Live</th>
<th>Online</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lectures</td>
<td>2 hours per week</td>
<td>• downloadable lecture slides</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• key concepts with glossary</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• objectives</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• text references</td>
</tr>
<tr>
<td>Tutorial</td>
<td>1 hour per week</td>
<td>• solutions to questions provided online at end of week</td>
</tr>
<tr>
<td>Workshop</td>
<td></td>
<td>• &quot;talk-through&quot; online problem with worked solution</td>
</tr>
<tr>
<td>Self-Tests</td>
<td></td>
<td>• online weekly with answers explained</td>
</tr>
<tr>
<td>Quizzes (assessable)</td>
<td></td>
<td>• online every 2 weeks</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• 2 attempts, open-book</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• marked online</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• solutions provided online</td>
</tr>
<tr>
<td>Essay</td>
<td>Hard copy submitted and marked with comments</td>
<td>• downloadable coversheet</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• online reference information</td>
</tr>
<tr>
<td>E-cussions</td>
<td></td>
<td>• weekly responses to discussion questions placed on bulletin board</td>
</tr>
<tr>
<td>Final exam</td>
<td>One 3 hour exam</td>
<td>• downloadable past papers</td>
</tr>
<tr>
<td>Email and Bulletin Board</td>
<td></td>
<td>• checked by coordinator at least daily</td>
</tr>
</tbody>
</table>

**Evaluating the WebCT Experience**

1. **Overall satisfaction**

As shown in Table 2, student responses indicated very high overall satisfaction with the quality of the subject and the way in which it was delivered.

When asked to describe the strengths of the subject presentation, responses ranged from simple statements such as

* I enjoyed it

...to more descriptive comments such as

* Overall the outlay of this subject is quite advanced in terms of a new technology for learning. The presentation was easy to use*

and

* I found the ACCY211 website very useful for all aspects of this subject. Particularly I liked the lecture notes, key-terms, workshops and tutorial answers provided online, this was very useful to me. The online quiz was a good assessment, as it guided you to your knowledge about each module, throughout the course instead of not knowing until the end.*

Students' satisfaction was also obvious when they were asked how the subject could be improved. Some students offered constructive comments, while many were so pleased with it that they were unable to answer the question, instead responding

* I think it is perfect*

or
It is one of the best presented subjects that I have studied so far. Can't think of anything off the top of my head that would improve it.

Some students used the opportunity to recommend that other subjects could be improved by adopting a learning environment similar to that in ACCY211:

This was the first time I had used online resource for flexi learning. As a part time student I found that this approach made it a lot easier to learn course. I just wish some of my other subjects would follow suit.

Table 2: Students overall perceptions of ACCY211

<table>
<thead>
<tr>
<th>Student Responses</th>
<th>Strongly Agree %</th>
<th>Agree %</th>
<th>Disagree %</th>
<th>Strongly Disagree %</th>
</tr>
</thead>
<tbody>
<tr>
<td>I was satisfied with the quality of the ACCY211 learning environment</td>
<td>35.4</td>
<td>70.1</td>
<td>12.6</td>
<td>1.2</td>
</tr>
<tr>
<td>The overall workload for ACCY211 was reasonable</td>
<td>20.7</td>
<td>31.2</td>
<td>15.5</td>
<td>2.6</td>
</tr>
<tr>
<td>The way in which ACCY211 was delivered was effective</td>
<td>34.2</td>
<td>57.0</td>
<td>5.3</td>
<td>3.5</td>
</tr>
<tr>
<td>The different aspects of ACCY211 worked well together to help me learn.</td>
<td>25.2</td>
<td>67.0</td>
<td>7.0</td>
<td>0.8</td>
</tr>
<tr>
<td>The Web site enhanced my learning in ACCY211.</td>
<td>23.3</td>
<td>52.5</td>
<td>22.2</td>
<td>2.0</td>
</tr>
</tbody>
</table>

2. Independent learning

Student responses confirmed the potential WebCT offers for more flexible learning, greater personal opportunity and increased autonomy. The results are summarised in Table 3.

While students were not specifically asked to comment on how the delivery of ACCY211 helped them to develop as independent learners, many chose to focus on this area when asked about the strengths of the subject. Some examples of these comments are:

I think that the main strength of this subject is the focus on individual responsibility. I liked the fact that the quizzes were on our own time.

The self reliant aspect, using the web as it lets you work at your own pace.

Being able to access everything on the web allowed me to control the pace of my learning by not having to wait for weekly lecture notes and workshops like in the other ACCY subjects.

Compared to other subjects, I think this is a subject which can help the students to develop the ability to work independently. And also, the students can face to face to another student in the Bulletin Board, this communicate with other student, that is the good idea and help the student solve the problem though communication.

The clear manner in which it is presented makes learning much easier. Allows you to work at your own pace, and is flexible.

Once again, some students commented on the need to extend this development of the independent learning experience into other subjects. One such comment was

I think other subject lecturers can consider use of WebCT as for the student it offers more support. Because of use of WebCT learning is more convenient for the student and that can help the students to develop the ability to work independently. And, more encourage communication with the teacher and another student. I think that WebCT is
a good and useful method. So, I think other subject coordinators need to consider using WebCT to help students to understand their subject.

### Table 3: Students perceptions of autonomy

<table>
<thead>
<tr>
<th>Student Responses</th>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>The ACCY211 structure helped me to develop the ability to work independently.</td>
<td>28.1</td>
<td>59.6</td>
<td>11.4</td>
<td>0.9</td>
</tr>
<tr>
<td>Material available from the Web site allowed me to control the pace of learning</td>
<td>33.3</td>
<td>37.7</td>
<td>9.0</td>
<td>0.0</td>
</tr>
<tr>
<td>The computer-based materials used in this subject allowed me to check what I had learned.</td>
<td>33.0</td>
<td>63.2</td>
<td>3.8</td>
<td>0.0</td>
</tr>
<tr>
<td>Teaching resources and aids were skilfully used to assist my learning</td>
<td>43.7</td>
<td>49.1</td>
<td>6.3</td>
<td>0.9</td>
</tr>
<tr>
<td>I found the self testing option provided in this WebCT based subject useful to my learning.</td>
<td>36.5</td>
<td>52.9</td>
<td>8.7</td>
<td>1.9</td>
</tr>
</tbody>
</table>

### 3. Ease of access

Another principle that is closely linked with independent learning is the accessibility of information, communication and feedback. Students appreciated being able to access material at a time which suited them. They were also very positive about the ease with which WebCT could be used to solve problems and keep them up-to-date about their progress in the subject. One student declared that *The most useful tools on line was basically all that was offered on line. It allowed many people from Sydney more time to work at home and at their own pace instead of coming in and wasting hours on the train for just an extra computer lab or workshop. Often if you missed a lecture or you really didn't get all the information down from the tutorial it was easy to access it from home instead of fighting with the copy machine in reserve and searching everywhere for the folders that seem to be always missing. The notes and compilation of key points was useful in the fact that they provided a concise summary of the textbook that was clear and easy to understand hence saving time on note making.*

Other students commented that this accessibility was the greatest strength of the subject: *All the information was there whenever you needed it and it was clear and concise. Many people face the challenge of balancing work and university hence learning at their own pace and attaining material when desired (even if it meant at midnight) was possible. The frequent quizzes also provided the insurance of continual effective revision throughout the duration on the course.*

The accessibility of the web site and information for the subject. In many subjects, it is hard to communicate with lectures/tutors/students so having a universal web site where everyone can access the information, it was very helpful to everyone’s education, in my eyes. *Thanks again!!*  

*All the items on the website were useful, even for small questions. You were able ask questions without waiting in lines, and there was a quick response time. The lecture notes were clear and easy to understand.*

*The strength is I can easily get access to the Internet so that I can study this subject more effectively.*
4. **Reliance on teaching team**

Students' comments highlighted the central role played by teachers, whether in person, or through WebCT. These responses were consistent with Mason's (1998) survey of the issues and practices of globalising education, where she found that

There is absolutely no evidence that learners are able or willing to do without teachers, no matter how well designed the materials, now extensive the resources or how "just in time" the learning ... The fundamental role of the teacher or tutor has not changed but the mode of operation has (Mason, 1998, p. 158).

Students identified the central role of the teaching team in a number of ways. Sometimes it was through positive comments about the lecturer or tutors. These comments tended to fall into two distinct types: those about their skills and those about their attitude, but the overriding them in all the comments was the ability with which communication occurred through whatever medium.

Examples of comments about teachers' skills were

*That all the teaching staff is very helpful in assisting us to learn the material, especially when the subject is quite difficult at times.*

*I had a great tutor whom I am very thankful for. I think it is imperative to have a good tutor.*

*Anne was highly organised. Excellent lectures and illustrative overheads.*

*The lecturer was great!! Material was presented clearly and in a reasonable amount.*

Students were concerned about their teachers' attitudes toward them. They were favourably impressed by teachers who were easily accessible and concerned about assisting students to learn, as shown by comments such as these

*Anne, the lecturer is great, she is easy to deal with, she can be contacted with ease and responds quickly to any problems that you might be having.*

*Sandy. She is a great tutor and both she and Anne genuinely cared about how my learning of the material was going.*

*Tutor (Sandy) was most impressive with a genuine desire to help students learn and pass the subject.*

*Such an organised lecturer with the right attitude in assisting students to learn and pass the subject.*

*The way that the lecturer taught us is very easy to understand and the website is very comprehensive, but the most important is the lecturer is very nice and kind.*

*The way Anne came across in lectures and her understanding of student's problems, was appreciated.*

*My tutor is friendly and willing to assist me to understand the questions*

The specific online communication devices received favourable responses with one student writing:

*The most useful tool is the bulletin board which allow us to communicate with the lecturers more effectively also, the e-cussion is also very interesting.*

An example of the Bulletin Board is shown in Figure 2.
The value of the student/teacher relationship was also indicated by negative comments. A few students indicated that they perceived that a teacher had failed to fulfil the role adequately, with one such comment being

*My individual tutorial was useless, and a complete waste of time, as the tutor was hard to understand, and difficult to approach.*

Furthermore, a small number of students were not totally happy with the integration of WebCT into the delivery of ACCY211 and wanted more direct communication with staff. Generally, this was for two reasons: either they found it difficult to be organised themselves or because they had not yet learnt to communicate comfortably online or a combination of the two. Examples of comments from these students were:

*I prefer face to face teaching. Having everything online like the workshops you tend to leave them behind and do later (perhaps too late if ever.)*

*I didn't enjoy doing the workshop questions. It sounds great that a student could do the work in their own time but I found that the internet took away the discussion aspect of learning in a person-to-person workshop where you could discuss ideas and thoughts are bounced off from comments made by students. I did not read all the replies in the internet workshops and I'm sure most students would not have either. Sometimes students need to be pushed into learning.*

Conversely, there were also students who wanted even less face-to-face communication, although many of these admitted the need for the "guide on the side" to help them through the material. Comments from these students included:

*I found the tutorials weren't overly useful because I knew that I could work through the answers to the questions on my own.*

*Found that to use my time most efficiently, I did not need to attend lectures, but rather use that extra time to go through the work myself at a faster pace.*

*I think the knowledge of Anne Abraham was more than enough and her knowledge was communicated well via the web site*
Because I didn't spend much time at Uni or through classes because of work commitments and different cities (Melbourne), I found that the internet website was very helpful because I didn't fall behind in topics whilst I was away on business. I really appreciate that, Anne. This is probably the best subject that I have learnt under and I enjoyed learning this subject with you.

Staffing Issues
The integration of WebCT into ACCY211 raised a number of practical issues which need to be addressed as flexible teaching and learning systems develop further. Perhaps the most important of these relate to workload and training.

1. Workload
The issue of workload is of concern to both students and staff. As mentioned previously, the use of WebCT encourages students to take more responsibility for their own learning. It allowed ACCY211 to be presented in a flexible mode, yet with a structured approach to the pace of study. While fortnightly online quizzes may at first have appeared to be onerous, students overwhelmingly found them helpful, making comments such as

The online quizzes assisted me to do a step by step studying through the session, without having to leave my studies until the final examination week.

and

The online quizzes were extremely beneficial to me. Even though I was taking a test, I felt that I was learning as I worked through them. Also, getting good results increased my confidence that I understood what was happening in the subject and was on the right track.

Despite increased benefits for students, WebCT places increased pressure on staff. The asynchronous nature of the communication, which allowed individual students to readily receive assistance, also meant that students' expectations for contact with staff increased. In addition, the adaptation of pedagogy to this mode of teaching requires time, training and recognition by the institution. However, with the current funding environment for the higher education sector in Australia, there is little flexibility to provide the resources that are necessary for this. Like fellow academics at Deakin University,

our experience is that high student contact hours, increasing administrative responsibilities and research demands leave insufficient time to reengineer and to develop extensive access to resources (Graham, Scarborough, & Goodwin, 1999, p. 42).

2. Training
The teaching staff involved in ACCY211 differed widely in their knowledge of WebCT, or indeed any form of CMC. Whereas some were highly motivated to learning by themselves and grapple with this new medium of delivery, others were not persuaded that there was sufficient value from using WebCT in their teaching to outweigh the precious time they would need to devote to learning new skills. The most practical way of training teachers was to encourage them to learn by doing. Indeed, favourable or unfavourable attitudes toward using any new technology is greatly influenced by informal comments of colleagues who have already experienced it (Brancheau and Wetherbe, 1989). Hands-on experience helps to reduce uncertainty about the medium and to increase an understanding of its benefits and possibilities for enhancing learning.

Despite the need for a broad range of skills to use WebCT in an effective manner in teaching,
it is difficult for staff with already heavy teaching and research workloads to allocate sufficient time to acquire or enhance these higher level skills, but the neglect of this will lead to inappropriate and unstimulating uses of CMC (Graham et al, 1999, p. 43). Thus, the commitment to the implementation of WebCT involves staff training, which in turn needs to recognised as an institutional commitment, despite its wider resource implications.

Conclusions
The ACCY211 experience has shown that

When CMC networking begins to be used seriously, the nature of the teaching and learning environment is inevitably changed (Lewis and Romiszowski, 1996, p. 14).

While CMC as experienced through WebCT is not considered a substitute for the face-to-face experience, it helps provide for students who cannot attend in person through illness, misadventure or work commitments. It motivates and encourages students to become involved in writing for a real audience of their peers instead of merely composing assignments for their teachers (Berge and Collins, 1996). It also provides a challenge to institutions to provide appropriate staff training and apposite teaching loads.

As UOW increases its provision of subjects at distant campuses, WebCT is likely to assume an even more central role. A flexible mode of delivery can be expected to extend to course offerings at local, as well as distant, campuses. The challenge is the extent to which WebCT can enhance learning and prepare students with the skills to be life long learners. To optimise this potential, there is the need for teachers to be prepared to accept the challenge, and if necessary, change how they teach.

References