

## **Engagement Theory, WebCT, and academic writing in Australia**

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### **ABSTRACT**

The development of Engagement Theory for technology-based teaching and learning provides guidelines specifically for Information and Communication Technology (ICT). This article is drawn from a case study in which a popular learning management system, WebCT, is used in an academic writing course at the University of Sydney, Australia. The study highlights both the benefits and difficulties of using technology when teaching academic writing and shows how effective Engagement Theory has been in the design, implementation, and outcomes of the website associated with the course. The website enhances the teaching and learning experiences of the students and the lecturer, students participate actively in the unit, interact and collaborate with each other and with the lecturer, and do so within a safe environment. The students also work together on projects that are meaningful and which are directly relevant to their own disciplines. Significantly, the time associated with the development and maintenance of the site was a problem, an issue not addressed by Engagement Theory.

### **Keywords:**

### **INTRODUCTION**

Kearsley's and Shneiderman's development of a theoretical framework for technology-based teaching and learning has benefited curriculum developers by providing clear guidelines that specifically relate to Information and Communication Technology (ICT), and has helped to increase credibility of the general benefits of ICT in educational settings. As in other countries around the world, use of ICT is an ever-increasing feature of education in Australia, and Kearsley's and Shneiderman's Engagement Theory does and will continue to enhance the quality of ICT in education. The following article is a case study of the use of a popular learning management system, WebCT, in an academic writing course at the University of Sydney, Australia. The study highlights a significant number of the benefits and difficulties faced with teaching academic writing, an area of study not common at tertiary level in Australia, and shows how effective the use of Engagement Theory has been in the design, implementation, and outcomes of the WebCT site associated with the course of study.

### **ENGAGEMENT THEORY**

Kearsley and Shneiderman indicate that Engagement Theory shares many of the features of other theoretical frameworks for learning, particularly constructivist and problem-based learning approaches, however, they believe that "technology can facilitate engagement in ways which are difficult to achieve otherwise" (Kearsley & Shneiderman 1999). Engagement Theory specifically promotes student activities that "involve cognitive processes such as creating, problem-solving, reasoning, decision-making, and evaluation" in which students are "motivated to learn due to the meaningful nature of the learning environment and activities" (Kearsley & Shneiderman 1999). An ICT environment, they claim, is best suited to providing a meaningful and authentic experience for

students, one that can be configured to simulate the kinds of experiences students will face outside of the classroom. Specifically, Engagement Theory comprises three components:

1. Relating: learning activities that occur in a group context
2. Creating: learning activities that are project-based
3. Donating: learning activities that have an outside (authentic) focus

Relating, that is, collaborative work, forces students to “clarify and verbalize their problems, thereby facilitating solutions” (Kearsley & Shneiderman 1999). Creating involves student participation in the development of their assessment tasks: “students have to define the project and focus their efforts on application of ideas to a specific context” (Kearsley & Shneiderman 1999). Donating “stresses the value of making a useful contribution while learning” (Kearsley & Shneiderman 1999), a feature that motivates learners because they are engaged with an activity they value.

Engagement Theory has underpinned some important features in the development and implementation of the WebCT site used for teaching academic writing at the University of Sydney. Essentially, Engagement Theory’s emphasis on providing a meaningful and authentic experience for students, in this context, involved creating assessment tasks and providing information to encourage the students to engage with writing as a process to be considered in its own right. To this end, the website developed for the course, by the mere fact of its written medium, provided the appropriate authentic experience to facilitate student learning. Taught using a combination of face-to-face lectures, workshops, and online material, the website contributes to a significant feature of the course, which is its ability to insist that the students engage with the writing process by writing for themselves.

### **USE OF WebCT SOFTWARE**

The use of an online component to complement the face-to-face nature of the academic writing course was a trial, and used only for a small class of 27 students. Despite the limited class size, the results of the trial indicate many of the benefits and problems associated with an Engagement Theory-based website. The WebCT site associated with the academic writing course provided support for the face-to-face mode of presentation in three significant areas: (1) by offering an additional means by which students were able to communicate and discuss class issues amongst themselves, and also with the course instructor, (2) by the inclusion of optional online material to assist both those students who were more advanced, and those who were struggling with the course, and (3) by the use of online assessment in the form of a series of quizzes. These three features of the WebCT site were created and developed with reference to Engagement Theory, where this theory clearly assisted the goals of the course.

An important feature of the WebCT site is its ability to save and collate statistics on the way the students made use of the site. The website collected data on the time of access, the length of access, the pages viewed, the length of time students took to complete each quiz question, as well as maintaining a log of all bulletin board exchanges. The data for this paper has drawn on these statistics, as well as on individual interviews with the students at the completion of the course of study.

### **ENCOURAGING STUDENT DISCUSSION AND COMMUNICATION:**

Traditional methods of tertiary instruction, particularly lecture-based tuition, are understood to be of value for imparting information to students, yet this does not develop skills of collaborative group work. By shifting away from the paradigm of lecturers being the fount of all wisdom, to

encouraging students to learn from one another, Kearsley and Shneiderman assert that students gain a deeper understanding of the course material and are more likely to develop concepts beyond the immediate scope of the course (Kearsley & Shneiderman 1999). Yet the practicality of collaborative work at a tertiary level is not always easily facilitated in the face-to-face environment. Time restrictions often do not allow students to develop working relationships with their peers, and can reduce the scope of their projects. In addition, self-conscious or shy students are often unwilling to speak in front of their peers, and some students find they have difficulty interpreting topics into verbal comments quickly under the pressure of a classroom.

WebCT software provides a bulletin board, which was used in Sydney University's academic writing course to encourage students to present questions or comments in a less-intimidating manner than in the classroom. It may be argued that this can result in students not contributing to classes, preferring only to communicate online, yet in reality the reverse occurs. A question or comment suggested on the WebCT site then finds its way into the classroom discussion, which can encourage a more reserved student to speak out. This counters Burdett, who states: "Student reluctance to participate in chat or group discussions stemmed from ideas of being exposed and a lack of anonymity" (Burdett 2003). Bunker and Vardi, however, would agree with my finding, in which: "use of asynchronous discussion may increase the reflection and thoughtfulness in student discussion" (Bunker & Vardi 2001).

Concurring with Kearsley's and Shneiderman's theory, the WebCT bulletin board encouraged student collaboration. Since some of the assessment tasks required the students to collaborate on projects, this tool was extremely valuable for them, and clearly encouraged the students to interact and communicate with each other. Anecdotally students reported on the convenience of this feature of WebCT, which allowed them to work collaboratively on a project from different locations and for as long as they wished, an attribute also commented on by Littlejohn (Littlejohn 2003).

The bulletin board is also a less intimidating way for students to speak to their lecturer. On previous occasions I have always offered students the option of emailing any questions to me directly, an offer that approximately 8% of students accept. The bulletin board on WebCT, however, resulted in more questions and enquiries from students than through standard email; a total of 37% of the students in this trial made use of the bulletin board to ask me questions directly. Perhaps this increased figure occurs because, once logged on to WebCT, the ease and availability of using the bulletin board encouraged students to use the option. The result is that I have been able to respond more effectively to the needs of students, and have been able to address specific concerns of individual students.

From the lecturer's point of view, the bulletin board has also been a valuable tool for contacting all of the students at once with news or information, and in a manner that respects the students' right to privacy. It has been a concern of mine in the past when contacting students through a group email that some students may not want their email address to be known to their fellow students. The bulletin board circumvents this problem because the lecturer can disallow contact details between students, if this is deemed necessary.

This does, unfortunately, raise a potential problem with the use of the bulletin board. Although the students on which I trailed this function adhered to the rules of communication that I outlined to them, this does not ensure that students in the future will do so. There is the potential for students using the bulletin board to bully or intimidate fellow students, and the only way to avoid this is for the lecturer to monitor the messages that are posted on the bulletin board. In my own experience, this meant checking the postings once a week, but with large numbers of students, this may require the delegation of the task among lecturers and tutors. This, according to Felix, is a time commitment we must face: "If we are serious about achieving the best results for our students, we

must be prepared to invest serious time in monitoring group dynamics” (Felix 2003). Kearsley’s and Shneiderman’s Engagement Theory does not address the issues of time-management for staff maintaining an online learning site, yet clearly for a site to effectively offer the students the opportunity for collaboration, a great deal of monitoring time is required by staff.

#### **OPTIONAL WEBSITE CONTENT:**

A large component of the WebCT site for the academic writing course was the inclusion of additional material for the optional use of students. It is true that the optional nature of the material resulted in a low number of students accessing the information, approximately 25% of students, but its availability seems to outweigh this factor. The optional material consisted of three types: additional material for students wanting to advance their knowledge beyond the scope taught in the unit, additional material to assist students struggling with concepts covered in the unit, and administrative material concerning lecture and seminar schedules and information and feedback about assessment tasks.

For the more advanced students, material was available on WebCT that offered them the opportunity to learn more about specific concepts that had been introduced at a preliminary level in the class, and they were encouraged to use this material in the completion of their assessment tasks. Although optional, the students were able to download this material on to their own computers for future use, and this has been the most significant achievement of the inclusion of the optional material. 100% of the students who accessed the optional material then downloaded the information for their future use. Similarly, students who struggled to understand the concepts taught in the class were, in addition to one-on-one assistance, able to access material on WebCT that helped with their understanding and learning. Again, the access rate of this material was low, but it was clear that those who did benefited greatly and improved their subsequent work. This material was also available for the students to download on to their own computers, and 100% of the students who accessed the information did so.

This section of the website was designed for individual rather than collaborative use, there was no deliberate intention to create this section of the website along the guidelines of Engagement Theory, as I decided that a combination of collaborative and individual options would be of value to the students, particularly in my overriding hope to offer a flexible method of learning that would be of value to all students. The reality, however, suggests that the students who did access the optional material soon used it in their collaborative class projects; the material became an additional resource.

The administrative material posted on the website ensured that all students had access to the course schedule at all times, and this avoided the common situation of students mislaying material handed to them in class (Bunker and Vardi 2001). More significant, however, was the inclusion of information concerning the assessment tasks. Information outlining the tasks was available from the start of the course, allowing students to prepare for the tasks well in advance, and, once completed, I posted general comments and feedback on the tasks. This function performed better than expected. All students received individual written feedback on their assessment tasks as they were marked, and so the usefulness of giving general feedback on the website was a surprise. Students commented on the usefulness of the general comments for suggesting further avenues for their work to develop, areas that may not have related to their individual comments on their marked assessment tasks. I discovered, too, that the online feedback acted as a checklist for the students’ later assessment tasks. Although I presented the general feedback verbally in class at the return of their tasks, the students reported that having the general feedback online allowed them to use the information when preparing their subsequent assessment tasks. This was an unexpected benefit.

## **COMPULSORY WEBSITE CONTENT**

One part of the website formed a compulsory component of the students' assessment. The course made use of the quiz function on WebCT. Understandably not all courses of study would benefit from this form of assessment, but the academic writing course had previously included quizzes that had been implemented during the classes. Because the existing quiz structure was compatible with the online version, it made sense to trial the WebCT format. It must be acknowledged that the preparation time of the online quizzes was considerable. Burdett indicates that: "time consumption is a negative consequence of using ICT and a deterrent to further innovation" (Burdett, 2003). Once created, however, the benefits were significant for both the students and the lecturer, and the time taken in preparation results in an improved outcome (Felix 179).

Previously, administering the quizzes in class required approximately 30 minutes. The quizzes then took approximately 2-3 hours to mark each week, and there was no scope for presenting any feedback to the students on their results. The WebCT quizzes considerably altered these elements of the quizzes, a feature that Bunker and Vardi note in their research into the reasons for developing online learning sites (Bunker and Vardi 2001).

Each quiz was based strictly on the content of each lecture. The WebCT quizzes were configured to become available one at a time, after the corresponding lecture had taken place. This ensured that the students could not see the quiz prior to the lecture and that the students attended the lecture. Each quiz consisted of ten questions, and for each question the students had to choose the correct answer from a selection of four possible answers. Approximately five concepts were introduced in each lecture, and each quiz consisted of two questions on each concept, one relatively simple, and one significantly more complex. Once each quiz became available to the students, it remained available for the remainder of the semester. This allowed for potential difficulties with students enrolling late, and it allowed students to spend as much time as they needed to answer the questions. On completion of each quiz, the students received immediate feedback and mark for their work. For each question, they received a response to indicate if their answer was correct or incorrect, and in every case, the students received information to explain why their answer was either correct or incorrect. To reduce the opportunity for cheating, every student received a slightly different quiz. The students received the same questions, but the selection of possible answers was randomised to avoid students passing answers between each other, and to avoid students collaborating on the quizzes.

The results of the WebCT quizzes have been significantly positive. From the students' point of view, the online quizzes are a much more effective teaching and learning tool than the earlier in-class format, because the students receive feedback about their results. Students commented that this has been the most valuable feature of the quizzes, because they have learned from their errors, which is reiterated by Felix: "Computers can provide individualised feedback when it is difficult in the classroom to attend to all students equally and fairly at all times" (Felix 2003). The quizzes also encourage the students to apply the information learned in lectures, rather than to repeat the information without understanding it. Because the quiz questions alternate between simple and complex, the students must first answer a simple question, similar to as it had been taught in the lecture, but then must apply that knowledge to a more complex question on the same concept. McLoughlin and Reid have commented on the shift away from memory-based assessment to "fostering learning and transfer of knowledge", which the complex quiz questions help to stimulate (McLoughlin & Reid 2002). From the lecturer's point of view, the online quizzes removed the amount of time previously spent marking, and increased the time available in class for teaching, a factor particularly important for this course, which requires students to perform a number of time-consuming writing tasks in class.

Although the quizzes were designed for individual rather than collaborative assessment, they were specifically designed with Kearsley's and Shneiderman's 'authentic focus' in mind. For an academic writing course that is used by students across disciplines, the course material must have an authentic focus; it must be immediately transferable to the students' other areas of study. For this reason the quizzes were designed with the simple and complex examples, and the possible solutions were taken from a range of academic writing samples from several different disciplines. From this the students were able to directly apply what they had learned from the quizzes to their own academic writing in other courses of study.

## CONCLUSIONS

From the trial, the WebCT site for the academic writing course has proven to enhance the teaching and learning experiences of the students and the lecturer. The site has shown to encourage students to participate actively in the unit, to interact and collaborate with each other and with the lecturer, and to do so within a safe, monitored environment. The assessment methods encouraged the students to work together on projects that were meaningful and which they could see were directly relevant to their own disciplines. In the creation of the website, the intention had been to draw on Engagement Theory where it was deemed relevant and useful to the aim of providing an authentic experience of the writing process. While Engagement Theory does not consider the needs of the lecturer, particularly in terms of time-management of the website, the result of this trial was an overwhelming endorsement of Engagement Theory for online learning systems, beyond what was expected or hoped for.

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