The Use of Laptops in the Classroom : Taking the Lead

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Typically, school teachers may hear the “dog ate my homework” excuse, but with the introduction of more technologies, specifically laptops, into the classroom this excuse may be replaced with: “But it wasn't on WebCT!!!” I heard this first at Trinity College School (TCS), a co-educational boarding and day school (Grades 5-12) located in Port Hope, Ontario. The school has a unique and innovative laptop program. All Senior School students (Grades 9-12) have a personal laptop and bring it to class everyday. Course information is stored in a web-based course management system called WebCT.

While working at TCS as a student teacher, my advisor mentioned that he felt students were more enthusiastic about writing tests using WebCT than using the traditional pen and paper method and they also seemed to receive higher grades on the online tests. I saw this as a perfect opportunity to practice leadership in the classroom and decided to do some exploratory research to find out if students truly perform better on WebCT tests than on paper tests under controlled measures. I designed two tests on a current subject in Grade 9 Core French: one to be taken on WebCT and the other written by hand. I also surveyed the 27 students enrolled in these classes to find out about their habits and preferences using laptops and the WebCT system.

The Mandatory Laptop Program and Online Course Management System at TCS

TCS has embraced and integrated computer technology into the daily lives of students through the Mandatory Laptop Program. TCS is one of the first schools in Canada to install such a comprehensive network. Its Local Area Network serves 1300 Ethernet data jacks, in addition to providing wireless connection in its academic areas. Since September 2003, all students in Grades 9 to 12 are required to bring a laptop to class everyday. Faculty members are provided with laptops and adjust traditional teaching methods to incorporate positively technology into curricula.¹

WebCT is an online course delivery and management system. The software can aid in creating entire courses or can complement a classroom-based course.² It was originally designed by two university professors in British Columbia.³ The system has numerous applications that can be added to a particular course. Grade 9 French students at TCS currently have seven options: Course Outline, Calendar, Course Materials, Communication, Evaluation, Course Tools and Assignments.

WebCT tools allow teachers to use predefined sections to create a Course Outline or to customize his or her own syllabus. In the Calendar, teachers may post homework, due dates or upcoming tests. Each message has a title and students click on a hyperlinked date to read the notice. In Course Materials,

students may find links to lecture notes or presentations, often in PDF (Portable Document Format) which can be printed.⁴ Within the Communication tool, there are Discussions, Email and Chat options. Using the Evaluation Tool, students can take a test or quiz, view their grades, or test themselves. Students find links to help with researching a specific topic or criteria for a project under Assignments. Additional tools may be added as they become available.

Advantages and Disadvantages of Laptops for Teachers and Students

The laptop is an efficient vehicle for organization and communication. Handouts and visual aids for teaching are easily created with a computer; these aids can also be projected on the board directly from the laptop. This saves time writing prepared activities or lessons on the board, cuts out the need to create overheads and is much cleaner than chalk. On the laptop, things can still be shown in different colours and can be changed while teaching. TCS also has installed “Smart Boards” on which the teacher can interact and make changes to what is projected by the touch of a finger on the board.

Electronic versions of handouts save paper and are sent to students by email or posted in their WebCT resources. In addition to visual projection, teachers can play audio files or CDs through the laptop, which are particularly effective for teaching languages. A perceived disadvantage for teachers new to the technologies is the difficulty in becoming familiar with its uses. Another may be the initial and continuing costs of providing teachers with laptops and keeping up with the technologies.

Students likewise have a set of their own benefits and setbacks. In the survey "Laptop Habits and Preferences" the most common reasons for students liking the laptops included using it as an organizational, communication, or resource tool, and the fact that it allows work to be completed quickly and neatly. They enjoy that laptops are portable and can store a lot of information in a small space. One student said, "It is a fun way to study and take notes during class." Another student remarked about its relation to the world outside the classroom: "It gives me a jump start to the future which I think is going to be full of technologies." The survey also found that a majority

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of students prefer using their laptop computers for school work to a desktop or handwriting. Eight of the 27 students surveyed still prefer handwriting.

On the downside, computer technology is not perfect and students get frustrated with their laptops shutting down, freezing, crashing or breaking. Students must take special care of their laptops by keeping them safe, clean, and in good working condition. One student finds "it is a constant distraction from work". Others note that laptops are impersonal and prevent people from being sociable. However, students find word processor tools and online resources useful for school work. When asked "Do

you like having a laptop?" 26/27 students answered "Pretty Much" or "Very Much" whereas only one said, "Not Very Much".

Advantages and Disadvantages of WebCT for Teachers and Students

WebCT is accessible to both students and teachers through a web browser such as Internet Explorer or Netscape. Consequently, teachers can make changes to the course at any time from any web-accessing location and have it immediately available to students.⁵ It is useful for organizing units and planning lessons on a calendar and keeping students updated as to what has happened or will be happening. A "Global Calendar" option allows teachers and students to view all of their courses on one calendar. From the students' point of view, WebCT is helpful for keeping track of homework; 78% describing it as "Somewhat" or "Pretty Much" helpful. WebCT provides a choice of language option for the layout and instructions. Students can also post private entries on their Calendars which cannot be viewed by classmates.⁶

WebCT Testing versus Paper Testing

Students appeared to receive better grades on WebCT tests. To test this theory, two quizzes were designed to evaluate students on the same material, at the same level, with the same type of questions and under the same conditions—one that would be taken on WebCT and the other to be written on paper. Thirteen students wrote the paper quiz first, followed (within the next 15 minutes) by the WebCT quiz; and vice versa for the remaining 14 students.

3:2 Spring/Summer 2006

The overall average percentages of scores for both methods differed only by 3%. The exercise showed that students performed about the same on a WebCT quiz as they did on a paper quiz, differing only by 1-3.5 points out of 10, if differing at all.

Regardless of whether the test was Web or Paper-based, slightly more than half of the students performed better on the first test that they took; 30% improved on the second test and 18.5% got an identical score. Of those with differing scores, 55% did better on the paper quiz and 45% performed better on the WebCT test. Those who wrote the paper quiz first scored an average 3.5% higher than the combined overall average.

Advantages and Disadvantages of WebCT and Paper Quizzes for Teachers and Students

It is quite simple to set up a quiz in WebCT and the same steps are followed for surveys. In preparing a quiz on WebCT, teachers can create different types of questions: Matching, Short Answer, Fill in the Blank, Multiple Choice, True or False, and Paragraph. Questions can be randomized in such a way that no two students receive the exact same set, or order of multiple choice possibilities.⁷ Questions can be uploaded from other sources as well as imported to another course.

There are numerous advantages with grading. Time is saved on marking tests since WebCT quizzes are automatically graded and can be tabulated in various formats. Teachers can even view specific details, down to the exact time each question was saved. The statistics presented can be

helpful for evaluating tests because teachers can see which questions may have caused a problem or, for example, which Multiple Choice answers stumped students most.

WebCT does not only save time in the post-test task of marking but also in the pre-test stage. Paper quizzes can be time-consuming from developing proper presentation and making copies to grading by hand. With WebCT, one is ensured that all quizzes are graded by the same standards. WebCT has limitations. Responses to Paragraph questions cannot be automatically graded. For Fill-in-the-Blank or Short Answer questions, all possible correct or acceptable answers for part marks must be entered into the system. Students may be tempted to go online while working on their tests and could use other INTERNET sites or computer resources to complete their tests or converse with each other on programs such as MSN Messenger during evaluation.

Paper testing remains a valuable, tried and tested method for evaluation. As teachers employ WebCT tools more, a database is created from which they can select questions and online quizzes become more efficient and effective.

Students have more experience writing tests by hand and have developed ways to concentrate with their pen and paper. In general, students do not enjoy taking tests, but a new form of examination can be fun. Once the novelty wears off and students remember that they are being evaluated, the stress can return. They may also have shortcuts or codes to learn in order to complete their tests.

WebCT may increase students' stress level on timed quizzes where they can see the seconds counting down. On the other hand, the time showing can help them to organize and pace themselves. In a test situation, it is especially important that power to laptops and connection to the INTERNET remains uninterrupted.

Conclusions

Technology at TCS has been embraced and integrated into classrooms so that it complements courses and provides variety to students with differing learning styles. Advantages outweigh the disadvantages. As long as new and changing technologies are properly incorporated at an appropriate pace, they will continue to create an advanced learning environment.

Despite the disadvantages, students generally enjoy having laptops and use them extensively for work in many classes. They have proven to be effective tools for both students and teachers for organization of school assignments and homework, as well as for numerous forms of communication.

One of the survey questions asked the students to gaze into the future and envision ways in which students and teachers may be able to use computers at school. Many students pictured an increase in the amount of activities performed on computers for classes from communication to evaluation. They imagined a virtual classroom, and went so far as to suggest the redundancy of books, teachers, and school buildings. It is important for both students and teachers to limit technologies so as not to inhibit human interaction. Students al-

ready spend a significant amount of time in front of their computers; we should embrace the technology but not allow it to replace traditional forms of education.

This leadership effort afforded me an opportunity to implement a strategy based on an existing structure and practice. It taught me and my students that change can occur and that adaptation is one of the many skills any teacher can employ to practice leadership in the classroom.

¹Pages 1-5 "Background Information." Trinity College School: Information Technology Business Plan. November 2003 and n. pag. Life at Trinity: Information Technology 2003

²Page 6 WebCT Faculty Handbook. Technical Communications: May 2001

³Page 1 WebCT Student Reference Guide. Trinity College School: June 2002

⁴Page 5 WebCT Student Reference Guide. Trinity College School: June 2002

⁵Page 6 WebCT Faculty Handbook. Technical Communications: May 2001

⁶Page 4 WebCT Student Reference Guide. Trinity College School: June 2002

⁷Page 6 WebCT Quiz and Survey Fundamentals. WebCT: July 2002

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