

database conversion, Web forms for data entry will be created for the slide librarian. The relational database design will be put to the test over the summer when a course test site is created. The database may need adjustment, so discussion with the art history faculty will continue. The goal for the fall semester is to have the database design completed, have online forms for selecting and adding images created, and have enough images scanned to provide online access to at least one core course with multiple sections.

Conclusion

While DPD previously offered brief, short-term assistance to professors when they needed documents or images digitized, this was the first opportunity to work with an entire department to develop a solution to a pedagogical challenge. It is encouraging that the Art History department recognized the skills that library personnel could offer them in the classroom. Library-faculty collaboration makes the library a more integral part of campus, facilitates communication between the library and departments, and works as a marketing tool by providing more visibility to departments. Providing access to information is the goal of DPD, so it is only logical that technical expertise is used to assist professors in the quest to offer access to digital images.

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Developing the Online Learning Environment: The Pros and Cons of Using WebCT for Library Instruction

Elizabeth W. Kraemer

Rising enrollments at Oakland University (OU) have required librarians to decrease instruction time with each basic writing class in order to preserve contact with all sections. As a result, the faculty at Kresge Library developed an online instruction module to familiarize students with library research. Using WebCT course management software, the librarians are able to introduce students to basic library skills so that in-class time can be used to teach more advanced research techniques. This article focuses on the benefits and drawbacks of using WebCT for such a library instruction program, and the support provided to the instructors of the courses using the module.

Oakland University (OU), a public institution located in Rochester, Michigan, about thirty miles north of Detroit, has experienced steady growth for the past six years, bringing fall 2001 enrollment to 15,875 students.¹ Oakland's administration, faculty, and staff are dedicated to continually strengthening the educational experience of students. With this goal in mind, a two-day "Teaching with Technology" seminar for faculty members was held on campus in the winter 2001 semester, in great part to embolden instructors to reach beyond traditional teaching methods in the classroom. The OU administration also began promoting the use of WebCT course management software that semester, even offering financial bonuses to faculty members who developed WebCT-based instructional programs and courses over the summer of 2001.

Coinciding with this push from the administration was an effort within the library to reorganize the information literacy instruction program offered to the university's freshman writing course, Rhetoric 160 (RHT-160). The library faculty at OU typically provided multiday instruction to each section of RHT160, but rising enrollments had increased the number of sections of this class, making it difficult for a small library faculty to maintain that standard. In order to preserve contact with all sections, the librarians had to reduce face-to-face teaching time for each class from three hours to two hours. WebCT provided a platform for organizing the decreased amount of face-to-face time efficiently and effectively. To develop an online instruction module using WebCT, a three-person design team was created: a senior member of the library faculty

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would assist with content and course design; this author, then the most-junior faculty member, would manage the technical aspects, including any hand-coding, file uploading, and actual construction of the course; and the then-interim associate dean of the library would advise on the project.

Academic libraries of all types have begun to implement similar online instruction programs in order to reach large-scale student populations, and some have determined that an online instruction project positions them strategically on campus.² The goal of the OU library design team was to create an instructional module that would both familiarize students with library services and also teach them the basics of library research before ever coming into the building for in-class instruction. This would allow the librarians time to present other types of material face-to-face in the subsequent class sessions, and also place Kresge Library among the leaders in instructional technology on campus.

The WebCT module ultimately was divided into three tutorials, each of which was followed by a short quiz. The online course also included a pretest, to be taken at the outset of the course, and an identical posttest which followed the last tutorial to measure the students' improvement. The first of the three modules was entitled *Library Basics*, where students learned about the library's layout, building and reference desk hours, interlibrary loans, and one-on-one research consultations. The second tutorial introduced Kresge Library's online catalog and showed students how to perform title, author, and keyword searches. Information on constructing effective Boolean keyword searches was also given. In the final tutorial the students were presented with OCLC FirstSearch, in which they were shown similar introductory search concepts.

The designers had a steep learning curve on this project, not the least of which was simply determining how

best to shape WebCT to meet the program's needs. This article focuses on the benefits and drawbacks of using this course management software for a supplemental library instruction program. It also details the support provided by the library design team to the instructors of the Rhetoric 160 courses using the WebCT module.

Pros of Using WebCT

There is no question that WebCT is a powerful tool for course design. Many beneficial features are included in the package for instructor use.

Grade Book

At OU, the WebCT grade book is compiled for each section once the registrar enters a class list into the system. This online list is updated periodically throughout the semester to reflect student drops and adds. The grade book allows both classroom instructors and library instructors to determine who has completed quizzes and to review students' scores. The grade book is customizable, allowing instructors to add additional grading columns, rearrange the order of the columns, and allow or deny individual students' access to the course. Instructors can sort grade book entries alphabetically or according to grades received on an exercise. Additionally, one can search grade book fields, which would be helpful in listing every student who earned higher than a specific score on a quiz.

Analysis

The built-in tracking software in WebCT allows instructors to perform powerful analysis functions such as determining grade distribution on quizzes, checking how much time each student spends in each tutorial, and examining the number of pages of content each student has visited.

Course designers can examine student performance on specific questions as well, to determine whether those questions are effective additions to a quiz. Many of these options are quite advanced for the library's needs, and the faculty have found that the analysis tools are rarely used to their full capacity for the library instruction course.

Glossary

The built-in glossary feature allows course designers to write or import definitions for potentially unfamiliar terms. In addition, WebCT allows instructors to create cross-reference links, relating one term to another in the glossary. For library instruction purposes, the design team included terms with which the average first-year student might not be familiar, like call number, record, and OPAC. The glossary is also searchable by keyword.

Selective Release

For each quiz or exercise, WebCT allows the course designer to set criteria for release to students. For example, the library design team held the release of each quiz until students earned a sufficient grade on the preceding tutorial's quiz. This feature helps to keep students focused so they do not complete the tutorials in a jumble, but rather in the intended order. Instructors could also make a quiz available only between specific dates, or even by password.

When editing the quiz settings, the designer can also indicate the number of times a student will be allowed to take each quiz, and which of multiple scores should be recorded. Release criteria can then be set that will regulate the span of time that must pass between attempts at taking the quiz. For instance, in the library module at OU, the settings

allowed students to take the three tutorial quizzes an unlimited number of times to achieve the highest score possible, but the pre- and posttests could each only be taken once.

Customizable

WebCT is highly customizable, both in the design stages and during use. For instance, when developing the course, an instructor can create a unique appearance for the environment by uploading a background image or selecting the color palette to be used throughout the course. Designers can also upload their own icons to be used in their modules to unify pages or suggest a theme for the class.

Customization has been very useful for the library instruction course because class instructors have the option of integrating their own components into the library template. For example, some rhetoric instructors at Oakland have uploaded their class syllabi or additional assignments, while others have activated WebCT tools like the chat room and discussion boards for use with their classes. Other optional tools include a course calendar, group e-mail, and a hit counter that displays the number of visits made to each page.

Student Contact with Technology

The intrinsic value of such an interactive online experience cannot be overemphasized. Every encounter students have with online technology will help them gain the comfort and skills they likely will need in nearly any professional arena they enter after college.

Cons of Using WebCT

Since WebCT is designed for use with a semester-long course, and because such technology is always improv-

ing, the library team encountered several problems during design and implementation.

Access

A WebCT course is available only to students registered for that specific class with the university, and the system requires a username and password in order to gain access. The drawback of this model is that password access prevents any members of the general public who may need assistance with library tools from using the content in the online library course. At this point, transfer students or other members of the university community are likewise excluded, as currently only the rhetoric department uses the online library course.

A simple solution used in the library's current WebCT incarnation is to house the lesson content on the local server, merely linking to it from within WebCT. This allows the wider academic community to view the tutorials, though without the option of taking the related quizzes. Using this method, professors from other departments on campus are also free to link to the content from their own WebCT courses.

Quiz Bank

The course designer must enter all potential quiz and test questions in the Quiz Bank before being able to use them in an exercise. This system is ideal, as an example, for importing questions from textbook publishers where available, but it is bulky for short exercises in a supplemental course. Upon entering a question into the database and indicating the correct answer, the instructor has the option of including feedback on each answer to help students. Before the question can be used in a quiz, it must be assigned to one of the designer's categories, which can be

organized in any way. Our questions, for instance, are categorized under the quiz in which they are used, such as Pretest or Library Locations Quiz.

Complex Changes

Many changes to a WebCT course that seem straightforward (such as altering a quiz question) actually can take as many as six steps. Normally one would maintain a template of the course on the university's WebCT design server where all the changes would be made, and at the beginning of each semester the template would be copied—or cloned—once and transferred to the live WebCT server for student use. If an unexpected change needed to be made after the clone had been transferred to the live server, the instructor would just go into the live course and make the correction.

The library course is unique, however, in that the template on the design server is actually cloned multiple times, one copy for each of the RHT160 sections. Therefore, when even the smallest change needs to be made to the library course after the cloning has been completed and the semester has begun, the complexities of making alterations in WebCT are especially inefficient and frustrating to the designer. To illustrate, the library course was cloned twenty-one times for fall 2001 RHT 160 sections, and for the winter 2002 semester there were nearly ninety clones made.

Auto Grading

One of the major benefits of utilizing course management software is that students are able to complete assignments on their own timetable, at any time of day or night, without an instructor hand-grading their work after every exercise or quiz. Taking advantage of this feature, the designers of the library course planned to

make each quiz available only after successful completion of the preceding quiz; however, version 3.1.3 of WebCT, used for the initial course design in the summer of 2001, did not have this feature. The library's team was fortunate to find JavaScript code on a WebCT designer bulletin board that automatically grades quizzes upon submission, and the Information Technology Institute (ITI) training staff assisted in identifying a solution that would allow us to incorporate auto grading into the library module. This script was pasted into the submission message portion of each quiz settings page, which then directed the software to run the students' answers through an auto-grading tool so the next quiz could be released to the students accordingly. When using auto grading, however, it is vital for designers to remember that the course management software will only be able to handle multiple choice or true-false questions, as short answer or fill-in-the-blank questions require the interpretation of the grader. Later versions of WebCT include an auto-grading feature, so the JavaScript is no longer required.

Training Students and Faculty

As one might expect, due to the complexity and power of this course management software, faculty must go through training in order to begin constructing a class using WebCT. At OU there are a number of WebCT instructional courses offered through ITI. Classes include Faculty Orientation to WebCT, which is the prerequisite for other WebCT courses; WebCT Evaluation Tools, which introduce faculty to the various methods for testing students online using WebCT; and WebCT Content Resources, which describes how to create lesson pages and explains the basics of some of the other tools available with the course management software.

In addition, because navigation of completed WebCT courses is not

highly intuitive, many students may need basic training just to feel comfortable using the software on their own. There is an extensive online tutorial available through ITI's Web site which covers the log-in procedure, minimum computer requirements, technical tips, FAQs, and expectations of learners in an online course. Upon completion of this online program, students needing additional help can enroll in a live, on-campus WebCT training session.

Technical Issues

As is to be expected with the first run of an online course, the designers of the library course encountered several technical problems with WebCT. First, the auto-grading JavaScript seemed not to work for certain IP address, both on- and off-campus. Because a pattern to the errors could not be determined, the precise glitch with the auto-grading script was never isolated. Another important issue to point out is that in version 3.1.3, students could not resize WebCT's small pop-up quiz window, as this seemed to disable the various submission buttons on the quiz screen. When the library design team reported the problem to ITI, it became clear that this was a documented glitch with WebCT. This fault has been fixed on newer versions of the software.

Finally, problems that students and faculty may encounter when simply trying to log in to the course cause frustration. While the library instruction team referred several RHT160 students to ITI for detailed guidance, some rhetoric instructors actually discovered that their technophilic students were happy to assist less-confident classmates through the log-in process. Special care was also taken to ensure that those faculty members not comfortable with WebCT were still able to track their students' progress through the library modules, as the

library design team members would download grade books whenever requested, to be e-mailed to a professor ahead of time or printed out the day of the in-library session.

Instructional Support

The library design team knew that the instructors of each RHT160 section would be the best source of marketing for the new tool, as they would be able to promote the use of this tutorial to students most effectively. Therefore, as the team implemented WebCT for library instruction at OU, they also planned hands-on training opportunities for the rhetoric instructors. Additionally, technological support was offered to rhetoric instructors either through the library or through ITI.

As with any new tool, be it electronic or traditional print, it is vital that instructors feel confident using it and comfortable promoting its use to their students. For many people, confidence grows through experience and to this end, numerous WebCT training sessions were offered to faculty members in the rhetoric department. In preparation for the fall 2001 and winter 2002 semesters, twelve training sessions were held in library computer labs where instructors were given the chance to explore WebCT's features and uses under the guidance of this author, the tutorial's technical developer. In addition to the group times, individual appointments were scheduled and held for rhetoric faculty who had been unable to attend a session. A number of rhetoric faculty reported informally that the training sessions were very useful in helping them to feel more comfortable with the WebCT library instruction module.

Beyond training, support was offered to rhetoric faculty whose students experienced problems with the WebCT tutorial, either content-related or technical in nature. Every instructor was given a guide to the

tutorial to assist students with log-in and use. This guide listed the details for each quiz (including number of questions and required score to advance to the next quiz), along with contacts at ITI for technical issues (such as log-in glitches) and the library design team for content issues (such as concerns about quiz questions or grading).

During use of the online module, the librarians at Oakland University discovered that the sections with the highest completion rates were those in which the instructor required the students to go through the module for a grade. Conversely, sections in which instructors simply asked their students to complete the WebCT tutorial before the first face-to-face library instruction session had fairly dismal completion rates. This finding is consistent with that of other online library programs, in which student

testers often indicate that unless incorporated into a course grade, the majority of them would probably not use the tutorial.³

Because the majority of the faculty members in the rhetoric department are employed only part-time, it often is difficult to get information to those individuals in a timely manner. The librarians discovered that many part-time instructors seem not to check their business e-mail regularly, nor are they likely to look in their campus mailboxes more than the few times each week that they are on campus for a class. Due to this communication gap, some of the rhetoric faculty members indicated that not only were they not aware that training was being offered, but that they had actually never heard of the library's WebCT module and had no idea that the instruction program and schedule had been altered as a

result of this new tool. The library faculty are still determining the best ways to keep part-time faculty members fully informed. Often the librarian assigned to teach a RHT160 section will simply call the instructor at home to remind him or her that it is imperative for all students to complete WebCT before arriving in the library for instruction.

Instructional support for the WebCT module continues even now, in the fifth semester of use, and will remain in place for the duration. Changes are made to the module each semester as the library's tool is improved, and rhetoric faculty are always invited to contact the library's Instruction Coordinator for a walk-through of the WebCT course. In many instances, questions from faculty or students about the online module can be addressed either by the librarian assigned to teach their

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section of RHT160 or by any librarian at the reference desk; for highly technical questions or concerns, either the library's Instruction Coordinator or this author generally handles WebCT issues. As the rhetoric instructors become more comfortable with the tool, fewer questions seem to come in each semester from the faculty.

Conclusion

Many college students matriculating today seem to have a high level of confidence in their technology skills. Because of this, library instruction is more important than ever as these techies look with blind faith to the Internet for all their research needs. To this end, the Kresge Library WebCT tutorial is valuable not only because it allows librarians to reach a greater number of students, but also because online tools such as this allow class instructors to integrate information literacy competencies more smoothly into their instruction.⁴ Additionally, the assessment tools included within WebCT can be used to track student skills, allowing librarians to deter-

mine topics on which to focus during face-to-face time. This seamlessly integrates the lessons learned in the classroom with those learned online.

As libraries everywhere move more and more into an online information environment, many faculty and students may raise their expectations of library technology and seek to call on that ubiquitous information in the classroom. Kresge Library has already gotten positive feedback from the rhetoric department and has received some notoriety from the university administration due to the creation of the WebCT module, but the overall perception of the library as a technology leader on campus has yet to change as a result of the work with WebCT. However, should the librarians at OU decide to expand online bibliographic instruction offerings to other departments using WebCT, it is likely that the position of library resources as classroom mainstays would rise rapidly.

While it is clear that there are both pros and cons to using WebCT course management software to develop a supplemental online library instruction module, in our

case, the benefits returned from the investment in the project ultimately outweighed the drawbacks.

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