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A SOLUTION FOR NON-PROCTORED ONLINE TESTS USING WEBCT

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In developing an Internet-delivered version of my introductory political science course, I found it a challenge to devise online tests that prevented cheating. To the maximum extent possible, I wanted to create an Internet course that mirrored my on-campus course and minimized opportunities to cheat on non-proctored tests using WebCT. Over the last four semesters, I used my on-campus courses to develop online tests in preparation for my first Internet-delivered course.

With the advice and support of other faculty and staff, I developed online quizzes and exams using WebCT that support two Lead Forward goals. First, students learn to embrace and adapt to new and varied methods of evaluation. Instead of traditional pencil-and-paper in-class tests, students must be “change-able” enough to accept online testing techniques. Second, online testing builds students’ technological literacy. Indeed, online tests are rapidly becoming the norm for graduate school placement and professional certification exams.

Although I have created course-specific Web sites by writing HTML code for the better part of a decade, I was initially resistant to using WebCT as an online course delivery system. In particular, it seemed impossible to test students without using proctors or accepting high levels of cheating. Two years ago, I began to incorporate a WebCT e-pack associated with a new introductory text, which is specifically designed to provide a seamless integration between the text and Web resources. I heavily modified the publisher’s e-pack and included supplemental resources to match the approach and perspective that I emphasize.

Like other universities, our institution offers limited capacity for on-campus proctoring. My procedure does not eliminate cheating in non-proctored environments altogether, but disincentives the behavior. I now administer identical online tests in both my Internet-delivered and on-campus courses. Moreover, I use a similar approach for essay exams and objective quizzes, but detail the latter procedure here.

My Solution

Since I do not employ a proctor, I could not police students use of outside materials (i.e., books, notes, and other resources). Hence, my online tests are “open book.” Students are informed that they can use any resource, except another person. At the beginning of each quiz, they must accede to an

“honesty statement” that reminds them of these restrictions.

For each unit (or lesson), I have created a large database of standard objective probes (i.e., multiple choice and true-false questions), which can be garnered from electronic test banks or one’s personal files. Then, I enable WebCT to randomly select questions from these unit-databases for each student’s quiz. Thus, each student sees a unique mix of questions drawn from the various units tested in that particular quiz. Each quiz typically comprises 20 or 25 questions and the various databases total about 100 questions per quiz.

The quizzes consolidate several features that discourage students from looking up every answer. WebCT allows me to time the quizzes, which means students must complete each quiz within a relatively short time period. Also, I activate the WebCT rule that “delivers one question at a time, where students must answer or skip each question to proceed. Once a question has been answered or skipped it cannot be revisited” (WebCT, Version 4.1). Thus, students must proceed relatively quickly through the quiz, because they face a barrage of questions with a time constraint. The timed feature combined with the “one-question-at-time-never-return” rule discourages students from looking up every question in their book or notes (and discourages copying of the questions). On a few particularly difficult questions, students may spend a minute or two looking for the answer. However, they do not have enough time to look up every answer.

Since good quiz questions are costly to produce and valuable to students enrolled in future semesters, my solution must also prevent copying of these questions. Thus, after they have completed the quiz, students are only allowed to view their scores, but not the questions. Moreover, the use of very large databases makes it much less beneficial to watch another student take the test; students who cheat this way are highly unlikely to see the same question on their quiz. Finally, I allow two attempts at each quiz, but I enable WebCT to average the scores. If I scored only the highest attempt, students might be tempted to use one attempt at taking the quiz to copy or print the questions for themselves or other students.

Caveats, Drawbacks, and Advantages

For those considering my solution, some caveats are in order. It is essential that the instructor provide clear, written directions that outline the procedures and potential problems. A “practice quiz” for extra credit is extremely valuable; it relieves much student anxiety and exposes most user difficulties. The most common error is the “question not answered” problem. These typically arise when the Internet is a bit slower than normal and users rapidly click multiple times on the “Save Answer” button. I have been very flexible in responding to these and other students’ problems. Indeed, every semester, a few students encounter user difficulties that can usually be resolved by paying close attention to students’ concerns and a willingness to adapt that models change-ability.

One particularly difficult problem with my solution is that someone else could take the quiz for the student. However, similar challenges exist in large lecture classes on campus and many Internet-delivered classes. My other evaluation techniques (e.g., papers) are tailored to ensure that registered students are doing the work.

Information garnered from official teaching effectiveness evaluations, my own formal class surveys, and informal conversations with students suggest that most students accept my solution to non-proctored online quizzes. For a few students, a major drawback to my solution is their inability to review past quizzes. They argue since they do not know which questions they got wrong, they have a difficult time preparing for future quizzes. Of course, future quizzes test a different set of content, but students have been socialized that tests are also a learning tool. Other students express consternation about the "one-question-at-a-time-never-return" rule. Traditional test-taking advice is to ignore the tough questions and return to them at the end of the test. Here, students are forced to respond and cannot recheck their answers. I remonstrate these techniques are standard practice in contemporary professional certification and graduate school placement exams.

Another disadvantage to my solution for on-campus courses has been a noticeable decline in class attendance as compared to classes where I offered traditional in-class quizzes. Faculty and students recognize that class attendance is close to 100% on test days and somewhat less on other days. Using online quizzes removes test days from the syllabus and, hence, a few students begin to treat the class as an Internet-delivered course. My response has been to explicitly include questions from lectures and discussions on the test.

In my view, the advantages of non-proctored online quizzes for on-campus courses clearly outweigh these disadvantages. Online testing allows me to reclaim class time, which was previously lost to tests, for faculty-student interaction and discussions. Students' response has been generally positive. Many students, especially first-time WebCT users, express appreciation and report they wish other faculty would use similar techniques. A few students resent the change; most of these are Luddites who admit they "hate computers." As a result of this solution, all of my introductory students gain significant experience in and develop a level of comfort with online testing via a course Web site.

Many students begin to comprehend that learning is more than rote memorization and reliance on the instructor; these students recognize they must take responsibility for their learning. In the past, many students spent class time trying to convince me to "tell them what was on the test." In short, they wanted a study guide or "short list" of topics to study. Now, they understand that "everything is game," because I do not control the questions a particular individual sees when they take a quiz. By moving to very large databases that possess content validity, students no longer try to "guess what the instructor thinks is important." Rather, they attempt to understand all of the material. Moreover, this method has virtually eliminated the need to offer

alternative or “make-up” tests. Students have a one-week window to take the quiz at their convenience.

No perfect solution exists to offering non-proctored tests online. Instructors must accept some compromises, including “open book” tests, student discomfort with a new set of test-taking procedures, and—perhaps—a slightly higher likelihood of cheating. My solution offers a number of techniques to reduce the incentive to cheat and offers some significant advantages, particularly the reclamation of class time from tests for faculty-student interaction.

BIOGRAPHY

Gary Aguiar, an associate professor of political science, teaches undergraduate courses in American politics at South Dakota State University. In the last few years, he has completely integrated the Web in all of his courses. Once the syllabi are initially distributed to students, all materials are exchanged electronically via WebCT.