

## An Electronic Leap: Quizzes on the Web

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*Ed's nte:* Two articles in this issue (one by Andersen; the other by Warnock) describe different approaches to quizzing. Together they illustrate how a simple instructional strategy can be designed and used to accomplish very different objectives.

Like Mark Twain's famous Jumping Frog of Calaveras County, many teachers are weighed down with the thoughts, traditions, and technologies of the past, unable to make that giant electronic leap, even though their colleges and universities have invested much to provide the necessary technology. Four years ago I leaped and changed my approach to quizzing. I eliminated all in-class quizzes. I stopped using quizzes as summative assessments and starting using them to provide students a management tool for keeping up with the assigned readings.

Now all of my quizzes are electronically administered outside the classroom through a commercial, web-based, management system. (Although there are several software systems available today, I use WebCT because our university has already purchased it for instructors' use.) For those who may want to make this same leap, I would like to offer some points to consider when designing and administering web-based quizzes:

### 1. Single attempt or multiple attempts.

Although web-based quizzes can be designed to let students take a quiz any number of times, I generally allow my students three attempts at any one quiz. I let my students know the first day of class that even though points earned on quizzes count toward their final course grade, the primary purpose of the weekly quizzes is to help them keep up with the reading and "not to ruin their GPA." If they do not do well on the first quiz attempt, they can go back and

more carefully examine the reading material. As long as the instructor uses non-essay questions (i.e., multiple-choice, true-false, matching, short-answer), all quiz attempts are graded electronically, thus reducing the instructor's overall grading burden.

2. **Same or different version.** Because of security concerns that I'll discuss in a minute, many of my colleagues set up their web-based quizzes so that, on any attempt, each student gets a customized quiz. By providing many more questions than needed, the management software will randomly pick for each student the desired number of questions. This approach accomplishes summative objectives, but that's not my purpose. Besides, writing and uploading the questions is the most time-consuming aspect of using web-based quizzes.

3. **Level of Difficulty.** Because I allow multiple attempts on any one quiz, I often ask questions that are more difficult than I would have asked with a single-attempt design. Contrary to some student views, this doesn't mean that I deliberately try to "trick" students, but I try to ask questions that require a more in-depth understanding of the reading material. Further, if several attempts are allowed, multiple-choice questions need to be written with a sufficient number of response choices so that success depends on something more than repeated guesses. Increasing the difficulty level prompts discussion in class and gives me valuable feedback. Students may take the quiz during a one-week interval (more details in the next point), and this leaves times to ask quiz-related questions in class.

4. **Duration.** Web-based quizzes can be designed to allow students any amount of time to complete a quiz attempt.

Additionally, students can be allowed a specific time frame in which to complete a quiz. Because I want the students to keep up with the assigned reading, I allow a week for them to take the corresponding quiz. And I limit the duration of any attempt to no more than 15 minutes for a 10-question, multiple-choice quiz (i.e., 1.5 minutes per question). I've had no students complain that they are not able to finish the quizzes in the allotted time. Additionally, by giving students a full week to complete a quiz, I have virtually eliminated the problems associated with student absences and makeup quizzes.

5. **Security.** Although web-based quizzes generally are administered on password-protected systems, one of the disadvantages of giving unsupervised quizzes online is that the instructor never knows for sure who is actually taking the quiz. Students can give their login information to others, or groups of students can congregate to take quizzes together. Additionally, students quickly discover that the quiz questions are not secure and can easily be copied, printed, or e-mailed. Consequently, I inform them before the first quiz is due that they can print the questions after their first attempt and use them to locate the correct responses in the reading material. However, because of the lack of security, I do not use the web for major exams.

After four years of trial-and-error with web-based quizzes, I have no desire to leap backward. Electronic technology has not only eliminated the need for in-class quizzes, but eliminated my weekly chore of grading quizzes. It has freed up more classroom time, reduced my use of departmental resources, and given me many more quiz options. And, most importantly, my leap has resulted in an approach that makes my students more successful learners. 🍀