Online Exams and Quizzes

Effective Assessments For the Information Age (and Without the Burdens of Paper or Proctoring)

A Quick Overview

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Why Online Exams?

At first glance, conducting quizzes or exams through the internet, outside of classroom proctoring, seems to be of little pedagogical value. If students have access to notes, books, the internet, and each others' efforts, knowledge or insights, then what is the point? How can a quiz or exam assess what students have really learned? But quizzes and exams delivered online, if properly designed and written, still have value because they can test students’ ability to curate information, analyze, and interpret, worthwhile skills made more urgent, rather than obsolete, by information technology.

Small quizzes can be as much or more about offering students the opportunity to test themselves, than about grading. Offering students frequent, graded, but low-stakes sets of questions allows them to get a sense of how well they comprehend course content, or are developing skills in research, analysis, computation, and so forth. These can effectively be worksheet assignments, but with grading done automatically by the quiz tool (to save instructor time) and perhaps a time limit to offer a credible challenge to students. Practically quizzes can, just like their paper ancestors, help students prepare for exams.

Similarly, higher-stakes online exams can be crafted with the expectation that students will consult their notes, class resources, and the internet. In many disciplines, this may to a greater or lesser extent require an instructor to evaluate what exactly she or he is accomplishing with exams. An instructor must be comfortable with the fact that even prepared students will take advantage of sources ready at hand to look up one or two things, or perhaps just glance at their notes to better support an essay argument. Students may learn a thing or two this way while taking the exam, but if so, they have met course learning objectives before submitting the exam. Moreover, collaboration between students may not be a problem in itself, so long as students do not rely on it to take the place of engaging the course content. (After all, you may not oppose, and may even encourage, students working together while studying for an upcoming in-class exam). Despite all of the above, online exams need not be precisely the same as traditional "open-book" exams, because technology can create exam circumstances not previously possible.

But why go to the trouble to employ online quizzes or exams? Consider:

- **Option for Online Courses**: Instructors teaching online courses, which have few or no classroom meetings, may find them a helpful assessment strategy.
- **Efficient Use of Time**: For the face-to-face instructor, online quizzes or exams potentially free up class and instructor time spent on proctored equivalents.
- **Go Paperless**: Online assessments free instructors, staff, and schools from the logistics of paper: photocopying, reading student handwriting, securely toting and storing student submissions, operating or waiting on autograding machinery and services, and transferring grades to a gradebook.
- **Avoiding Academic Dishonesty**: For as long as there have been classroom "closed-book," proctored quizzes or exams, the security of these assessments have been undermined by novel ways to cheat developed by enterprising students. This problem is made much worse by the easy trading of these methods via the internet, so that students can quickly acquire an arsenal of tools and techniques for academic dishonesty. Properly constructed online quizzes or exams do not so much solve this problem as make it irrelevant.

Paper exams, including those with machine-graded answer sheets, require instructors to keep track of stacks of exams, and either grade all exam items themselves, or wait on those who operate the grading machine.
• **More feedback**: whether on short quizzes or longer exams, you can pre-program feedback that displays to students if they chose wrong answers. This can explain why right answers are correct, and also why plausible but incorrect answer choices are in fact wrong. Feedback can display instantly for formative assessments, or after a certain point (for example, after all students have completed the assessment, and perhaps after the professor has graded included essays.)

### New Exam Mode for the Information Age

It is possible that for some disciplines online exams more accurately simulate new "real-world" circumstances in the information age. It is not really true that we can always just look things up whenever we want. Many important questions aren't so easily answered directly or quickly via a web search engine. If a professional is expected to have timely, sufficient answers or arguments in response to questions she or he could only partly anticipate beforehand, this individual can't keep others waiting while she or he begins learning about the subject via a smartphone. By contrast, if this individual is prepared beforehand by having an essential command of facts, concepts, and arguments concerning a subject, she or he might need only to ask the web (or personal notes, or another source) a few honed questions, to complete an effective reply. This is the best use of the internet for thoughtful people faced with time-sensitive decisionmaking or composition: quick clarification and verification based on previous curation, rather than assuming we are prepared just because we tote the internet around in our pockets. In 1988, Mathematics Educator and Pioneer Seymour Papert argued that "We need to produce people who know how to act when they're faced with situations for which they were not specifically prepared.” A corollary might be that practically, we should also teach students how to best prepare for events, situations, or conditions they can only *partly* or *incompletely* anticipate.

### One Part of a Balanced Assessment Set

For various courses in many disciplines, online quizzes and exams can be helpful for assessment. But as with any pedagogical methods, there are limits to what they can accomplish, and in almost all cases instructors should have several different assessment modes within their course. There is an enormous variety of assignments, activities, and interactions where students can demonstrate to themselves and their instructors what they have learned.

### Exam Design Considerations

An exam or each section of an exam may be time-limited. Upon entering the exam, students start a clock that runs down as they work to complete questions. This is not radically different from traditional in-class exams, that are typically limited in time to a class period. When crafting exam sections and their time limits, a good question to ask is: what time limit would allow a properly prepared student a comfortable margin to answer all the questions, allowing time for some consideration, but without undue stress from the clock?

For an online exam, a large portion of the questions (even including multiple choice questions) should be constructed so that they are not easily answered with a quick web search. Students who did not prepare for the exam (as they would for a traditional, in-class exam) find the internet no help, because they'll burn through the time allowed looking up answers or answer content before getting enough answered for a passing grade. And if these questions are in the same time bracket with other types (say, a total of 40 minutes for 10 multiple choice questions and several essay questions, long or short), they must carefully weigh how much time to spend on any set of questions altogether. Even if some questions might be answered quickly with a web search, this may not be clear to students, and may not yield enough points for a passing grade.

Using most Learning Management System exam tools (including Desire2Learn's) questions may be delivered at random from a larger bank of questions, so that no two students get the same set of questions, in anything like the same order. Even answer choices within multiple choice questions might be randomized. Randomized question distribution makes collaboration difficult for students who failed to prepare beforehand.

### Question Types in Online Exams

- **Essay Questions**
- **Multiple Choice Questions**

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**Building Online Exams in Desire2Learn**

Below are tutorial videos which show you a range of options for building online exams using our Learning Management System (LMS), Desire2Learn.
Building a Basic Quiz in D2L - Transcript

Creating Quiz and Exam Questions

- **Multiple Choice and Multi-Select** - Transcript
- Creating True/False
- Written Response
- Fill-in-the-Blank

Associate a Grade Item with a Quiz

**Simple Question Randomization in a Quiz**

- Have D2L randomize questions delivery for each student. Each student will receive the same questions.

**Complex Question Randomization in a Quiz**

- Have D2L populate each student quiz with a set of questions from a larger bank or pool of questions.

Preview a Quiz (See what your students see)

Why Aren't the Quiz Grades Available to Students?

Open Graded Quiz or Exam Submissions to Students

Offer Extended Time or Alternative Timeframes to Some Students