

BEST PRACTICES

for Online Exams



EXAMS NEED TO BE RELIABLE AND VALID.

Reliability is demonstrated by generating consistent results from more than one test administration. Extremely lengthy tests, unclear instructions, and inconsistent scoring guidelines can lead to unreliable exams. Validity refers to how accurate the exam items measure what they are supposed to measure (Banta & Palomba, 2015). Therefore, it is important that each exam item needs to align with at least one of the associated student learning outcomes. When items are not aligned well with the outcomes, students can become confused and answer them incorrectly.

WRITE QUESTIONS THAT REQUIRE HIGHER-ORDER THINKING.

Construct the exam items to measure students' comprehension of concepts and skills. Questions focused on higher-order thinking will invoke critical thinking and problem solving. Questions that call for higher-order thinking would emphasize the evaluation, synthesis, and analysis of concepts and topics, whereas lower-order thinking questions focus on regurgitation of knowledge and basic comprehension. Higher-order questions will limit students from cheating, as answers will not be found in the textbook or on the internet. But that does not mean that they must be limited to essays or other open response questions; they can include multiple choice or response questions as well. Find some examples to the right.

SHUFFLE EXAM QUESTIONS AND RESPONSE OPTIONS, OR CONSIDER CREATING AN ITEM BANK.

Canvas provides an option to shuffle exam questions or response options, or create item banks. Shuffling questions and response options limits students' ability to share questions with other students, because students will be less likely to share answers if they believe they have different sets of questions. Item banks enable instructors to use multiple questions that measure the same concept or skill for an individual exam item. A set of questions can be randomly pulled from the item bank and placed in the exam. This allows for each student to have a unique exam and increases test security.



MULTIPLE CHOICE QUESTION EXAMPLES

- [Writing multiple choice questions for higher order thinking](#)
- [Designing effective multiple-choice questions](#)

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DELIVER QUESTIONS ONE AT A TIME.

Items should be displayed one at a time on screen. This will ensure items are answered in a timely manner and reduce the chance of the browser timing out. Students' answers will be saved each time they move to the next page. This greatly reduces the chances students will lose answers if there are connectivity issues. Since students often wish to review and revise answers to previous questions, it is often helpful to include a back button.

PROVIDE A PRACTICE EXAM.

Provide a short practice exam so students are familiar with the testing process. Be sure each type of question and feature they will encounter on the real exam is on the practice exam. Practice exams should not be long or required. They are intended to familiarize students with features of the exam or the process that they may not have encountered previously.

BE SURE THAT ALL STUDENTS TAKE THE EXAM CONCURRENTLY WITH A TIME LIMIT

Distributing an exam online presents an opportunity for students to share questions and answers with classmates. Students who take the exam at the same time, in conjunction with a timer, will be less prone to share questions and answers with classmates. Students' need to focus on the exam will limit their willingness to cheat. In addition, implementation of a timer, when clearly visible, will help remind students to use their time efficiently—but it is still important that students have a reasonable amount of time to complete the exam.

MAKE SURE STUDENTS ARE AWARE OF THE DOS AND DON'TS OF THE EXAM.

Students should be aware of the exam rules and ways to mitigate problems that may occur during the exam. For instance, students need to have a stable internet connection which includes the use of an Ethernet cord, when available, limiting use of other devices that use bandwidth (e.g. television, tablets, phones). Students need to have a quiet place to take the test. Make sure students are aware that they have a strict time limit. Students should understand that browsers or phone use to look up answers is prohibited. Students should also be aware to avoid using their browser's back or forward button, as this may cause the exam to timeout.

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PROVIDE FEEDBACK FOR INCORRECT ANSWERS.

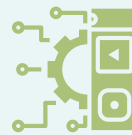
It is best to provide feedback once all students have completed the exam, to limit answer sharing, but it is also possible to provide feedback after each question if certain precautions are taken. In order to avoid answer sharing, it is usually best if the exam is administered simultaneously, if items are shuffled, and/or if an item bank is used. Feedback allows students to understand why they missed an answer; it is an important aspect of reflection and learning, even after a summative assessment, and is considered good assessment practice, as well.

BE CERTAIN THAT APPROPRIATE ACCESSIBILITY ACCOMMODATIONS ARE IN PLACE.

Some students may need extra time to take the exam. Canvas can make this [accommodation](#) for specific students after the exam is created. Some students may need other accommodations such as a need for a reader to help communicate test questions and options and appropriate color schemes for students who are colorblind. Review the university's [reasonable accommodation procedures](#) before placing accommodating features to your exam. OIT can help with setting up these features.

REMIND STUDENTS OF THE UTK STANDARDS FOR ACADEMIC INTEGRITY.

Although cheating cannot be completely prevented, students should be aware of the UTK standards for academic integrity as they still apply even from a remote locale. Share your expectations for academic honesty before the exam is administered; that is, explain to students what will be allowed and not be allowed during the exam.



OIT EXAM CREATION RESOURCES

OIT provides several helpful tips and resources for constructing and proctoring online exams through Canvas.

- [Getting Ready for Finals](#)
- [Canvas Quiz Creation Steps](#)
- [Canvas Quiz/Test Tips](#)
- [Proctorio](#)

[UTK Canvas Support](#) can offer assistance with Proctorio and Canvas quiz/test creation.

References

Banta, T.W., & Palomba, C.A. (2015). *Assessment essentials: Planning, implementing, and improving assessment in higher education* (2nd ed.). Jossey-Bass.

Malamed, C. (2013). *Writing multiple choice questions for higher order thinking*. Johns Hopkins University Bloomberg School of Public Health, Population, Family and Reproductive Health Department. https://www.jhsph.edu/departments/population-family-and-reproductive-health/_docs/teaching-resources/cla-04-mcq-and-higher-order-thinking-sept-2013.pdf McGill University (n.d.). *Designing effective multiple-choice questions*.

McGill University Teaching and Learning Services Skillsets. https://www.mcgill.ca/skillsets/files/skillsets/mcq_handout3.pdf

