One of the chief concerns about online learning is the sheer number of distractions students face simply sitting at their computers. Email, social media, YouTube—the opportunities to focus on anything but the task at hand are both tempting and endless. So how do you ensure students sit up and pay attention? One solution may be testing students early and often.
In a paper published in the *Proceedings of the National Academy of Sciences*, Harvard researchers found that by interspersing online lectures with short tests and quizzes, student mind wandering decreased by almost half while note-taking and retention of course material increased substantially. Turns out that giving incentives to pay attention yields many benefits, with the added bonus of reducing the feelings of anxiety many students associate with test-taking itself.

When it comes to the virtual classroom, there are many options to help students and instructors monitor progress against learning objectives. But before jumping in, it’s good to consider the different reasons for assessing students in the first place.

**Assessment of Learning:** Gathering evidence on student achievement relative to learning outcomes is what we typically think of when it comes to assessments. Although the primary motivation is to evaluate and grade students, even high-stakes summative assessments offer important opportunities to provide feedback and encouragement to fuel the ongoing learning process.

**Assessments for Learning:** This involves gathering insights to clarify student knowledge and comprehension with the goal of improving the quality and impact of instruction. Sometimes referred to as ‘formative assessments,’ these evaluations for learning take place throughout a course with the aim of identifying misconceptions and areas of struggle. Quizzes, writing assignments, homework questions as well as self-assessments can all be used to identify learning gaps and shape feedback to motivate students.
Assessments as Learning: The focus here is having students monitor and reflect on their own learning. What do I know? What can I do now that I couldn’t before? What’s confusing to me? Having students complete a ‘minute paper’ on what they’ve just learned is one easy and efficient way for individuals to assess their understanding of key concepts and clarify areas requiring further focus.

Examples of Formative and Summative Assessments

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Going Beyond Multiple Choice

Technology doesn’t have to limit your options for assessing students. With a little planning and a little ingenuity, you can gather useful insights to support student progress and create meaningful experiences to mark the end of the semester. An ed tech platform like Top Hat can be invaluable in instituting any variety of these formative and summative assessments.

Open Book Exams
In an open book exam, students are allowed to access notes, texts and other resources, the goal being to test their ability to find and apply information. For this reason, most instructors design open book exams to be slightly more difficult than an exam with no aids. Focusing questions on applying, analyzing, synthesizing, comparing or evaluating information will help minimize any advantages searching the internet, as will ensuring questions focus on lecture content and discussions.

Give careful consideration to allotting a realistic period of time for students to complete the work. You might also specify the length of responses to the questions to avoid students providing answers that are longer than necessary. Make sure to inform students about what to expect and, if time permits, give them an opportunity to practice. Ensuring you are accessible throughout the exam period, via email, for example, is also important since students will invariably have questions and potential technical issues to navigate.

Asynchronous Assignments
Asynchronous assignments involve having students tackle something new that allows them to apply knowledge gained throughout the semester. You might provide a problem to solve
or have them write a paper or report that lets them utilize learning from the course by analyzing and evaluating content. The room for creativity is endless. Beyond reports and essays, you might have students create an annotated portfolio of their learning—something that can be reviewed but that also serves as a keepsake from the course.

**Culminating Summative Projects**
The idea behind a culminating summative project is to have everything in your course build up to the same, singular assignment. To prime students for what’s to come, you could have the class attempt a major research project or final paper at the beginning of your course. Then use the rest of the semester to improve and refine their final submissions.

Executed with the benefits of a digital learning platform, you can provide ongoing feedback on different iterations of the same project digitally. By treating your entire course in this manner, you create opportunities to provide mentorship and reward improvement as students progress. The constant revisiting and revising of material can also have lasting effects on knowledge retention. So you can be confident that students have not only achieved but sustained mastery of the material.

**Epic Finales**
If you’re looking for creative inspiration, Anthony Crider, a Professor of Astrophysics at Elon University, has an interesting take. Crider has championed the idea of the ‘epic finale’ in place of a final exam. This involves having students tackle something new that allows them to apply knowledge gleaned throughout the semester in a creative way. Or giving students the opportunity to create something of their own that they can take away as an artifact of their learning. Depending on the curriculum, this may be a more meaningful (and practical) way to end the semester.
Group Projects
Whether assigning group-based or individual submissions, consider having students tackle a group project using the 4-S style of problem solving. This is where students are challenged to state the problem, structure the problem around possible solutions, solve the problem and, last, sell the solution. Depending on timing, drafts of smaller portions of the major project can be submitted earlier in the course, so it feels like a culmination rather than a singular event.

Video conferencing solutions make it easy for students to collaborate on assignments. Using recording software like Loom, students can also record the content on their screen and video feed, all in one go. These recordings can be submitted, giving instructors the flexibility to review student work at their convenience.

Remote Proctored Tests
For many educators, anything beyond a timed proctored exam is simply not an option. This is often the case for those overseeing courses that are required for accreditation. The good news is remote proctoring solutions have come a long way. Advanced solutions offer the ability to validate student identities, monitor for irregular behavior and use timesaving features like autograding to assess results quickly and accurately.

Before taking the remote proctoring plunge, make sure to inform students about the procedure ahead of time. What is and is not permitted during the test taking? What are the system-specific requirements students will need? Beyond effective communications, if time permits, walking them through the test-taking experience and providing practice questions can help set students up for success. Last, be sure to have a contingency plan should students encounter any technical difficulties. If a student’s computer crashes, what alternatives might you provide?