Using Technology for Teaching and Learning: Some Examples

Technology can help instructors address many pedagogical challenges in the classroom. There are often multiple tools that can be used for the same learning goal. This document offers some tips on using technology to promote collaboration, engagement, student-focused instruction, and creativity.

Collaborative Learning

Collaborative learning is an excellent way to increase student engagement in the classroom and teach students the importance of teamwork. Below are some tools that can aid in collaborative learning.

Content creation tools: empower students to peer-review each other's work, share the results of their research, and build lasting digital artifacts by embedding multimedia (images, video clips, audio clips), students can enrich their creations and provide a multisensory experience. Canvas, UChicago Voices (*voices.uchicago.edu*), and UChicago Wiki (*wiki.uchicago.edu*) all make it possible for students to collaboratively create content such as Web pages and websites, especially when used in conjunction with Canvas Groups.

Brainstorming tools encourage students to brainstorm and organize their thinking without needing to be in the same physical space. Online mind-mapping tools such as Lucidchart (available via your UChicago Google Drive) make it easy to plan projects and share ideas 24/7, while giving everyone access to a copy of the brainstorming session's results.

Resource-sharing tools let students share resources and knowledge/content they have created via Google Docs, Sheets, and Slides. This content can be shared via links or embedded within Canvas, which offers a built-in Collaborations tool to facilitate resource-sharing. Students can also share their work remotely through file-sharing services such as Google Drive or Box.

Peer Feedback and Engagement

Peer feedback is an important part of the learning process in many different circumstances, from workshopping creative writing to preparing a group lab report. Giving and receiving peer feedback can help to sharpen students' critical thinking skills and build a sense of classroom community. Below are some tools that facilitate peer feedback and engagement.

Discussion and commenting tools such as Canvas Discussions, Wiki pages, and blogs allow students to leave and reply to comments. The instructor can follow these comments and moderate them if necessary. Unlike oral discussions, everyone has a record of the comments, and the discussion can continue outside class hours.

Canvas' peer evaluation tool is a built-in management tool for peer evaluation that can be enabled when the instructor creates an Assignment. It streamlines the administrative process for instructors and makes it easy to use rubrics for grading consistency.

Teaching with Multimedia

Interacting with content presented in multiple formats, including images, text, video, audio, and verbal explanation, helps students learn more deeply. Using multimedia for data visualization, animation, or simulation helps convey information, concepts, and processes more effectively. Multimedia can be incorporated inside the classroom, but it can be a valuable tool to bring learning outside the classroom as well. For example, an instructor might ask students to watch a video explaining a new topic before class, allowing more class time to be used on application, analysis, and other high-level thinking.

Explaining difficult concepts: Instructors can record videos that explain a topic, provide clarification about common points of confusion, or present supplementary material. In a "flipped" classroom, instructional videos viewed at home replace in-class lecture. This leaves class time for higher cognitive order activities, discussion, problem-solving, and other active learning exercises. To make instructional videos effective, include in-video quizzes that check for comprehension. In most cases, closed captioning should be provided in order to make the videos accessible.

The One-Button Studio in Regenstein Library provides an easy way to create instructional videos. ATS is also available to help instructors who are interested in flipping their classrooms. Email *academictech@uchicago.edu* for more information.

Providing engaging feedback: Students often find audio or video feedback more personable and easier to understand. In addition, multimedia can make grading faster. Canvas provides a tool to record audio or video comments on students' papers instead of typing or writing feedback. Instructors might also record a screencast of a student's essay as they walk through the paper giving verbal feedback.

Creative Assignments

Multimedia assignments to allow students to engage with a topic in multiple perspectives (sound and other visual elements), express themselves or present their work in original and imaginative ways. In addition to the intrinsic motivation that comes from doing a creative assignment, using technology as part of an assignment helps students gain technical skills and improve their ability to communicate effectively. It also helps break down the barrier between the academic and the non-academic, helping students to see the relevance of what they are learning in the classroom.

Podcasts: Creating a podcast helps students to practice writing for a public audience. This is an especially good choice for topics that involve sound: students might include clips of relevant music, recordings of speeches, or interviews with experts to aurally illustrate their ideas.

Video assignments: Videos have many of the same advantages as podcasts, but they also include a visual element, which can make them even more powerful for depicting ideas and telling stories. Videos are especially valuable for topics where it is important to make reference to images such as paintings, photographs, charts, graphs, or maps.

Blogging: Using a class blog can help stimulate student interaction outside the classroom. The online platform makes it easy for students to embed videos and images in their writing, going beyond the confines of standard essay format. Voices at UChicago is an easy-to-use blogging platform that integrates with Canvas.

Resources

For more information on using Canvas effectively, visit *courses.uchicago.edu* and click on **Resources**, or email *academictech@uchicago.edu* to set up a consultation

The Chicago Center for Teaching also has information and guides at teaching.uchicago.edu under **Resources**.