Teaching with Technology Tips for Faculty
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Flipping the Classroom

Many instructors are flipping their classrooms to generate more student engagement within the learning process. Flipping is not new for faculty who have been using active-learning approaches in their classrooms in lieu of lecturing. Flipping is new for those who spend a large part of the class meeting time to lecture and present material. Flipping the classroom means changing from the in-class lecture, out-of-class homework model to one where students “attend” lectures online and spend class time on case studies, group projects, complex problem sets, and other collaborative work. It also provides instructors and students with one-on-one opportunities to address misunderstandings in the homework—even having students helping each other in bridging those gaps.

Despite instructors’ and administrators’ fears, students still come to class to participate in active learning and their classroom community. Student performance also seems to be on the rise, as indicated by research in different disciplines, referenced below.

Pre-recording a lecture means spending more time preparing for a class period, but it also means that instructors expect more participation from their students. There are several benefits. An increase in access (and flexibility) means that students can listen to the recording at a time that they may be most alert. We’ve all experienced that after-lunch energy slump, and some students are just not morning people—wide-eyed and processing—at eight o’clock. Students can also listen to the lecture as many times as needed when working on homework problems or studying for an exam. This may be especially helpful for those who need extra time to process information or for those whom English is not their native language. Another positive outcome emerges when this out-of-class preparation is paired with short quizzes to check student learning and provide quick data to adjust the class session. A review might be necessary on a topic, or student suggestions of applied experiences can be expanded when everyone meets. Additionally, a pre-recorded lecture comes in handy when instructors are not feeling well or are away at a conference.

Students who are not used to the highly interactive classroom may need some time to adjust. The extra time required to record a lecture and develop classroom interactions may also deter some instructors, so slowly integrating the flip into current practice may be the best process of switching up the class. Instructors will also get valuable feedback on what works and can make modifications. There are several recording options, ranging from simple audio recordings and five-minute Jing screenshots to longer PowerPoint recordings in Tegrity, Adobe Connect or Wimba Classroom. All of these technologies are readily available to faculty at UND.

Below are excerpts of a few articles on flipping the classroom:

As its name suggests, flipping describes the inversion of expectations in the traditional lecture. It takes many forms, including interactive engagement, just-in-time teaching (in which students respond to Webbased questions before class, and the professor uses this feedback to inform his or her teaching), and peer instruction. …. the cognitive strain that flipping imposes on students accounts for much of its success—and the resistance it engenders.

Implementing a flipped classroom model to teach a renal pharmacotherapy module resulted in improved student performance and favorable student perceptions about the instructional approach. Some of the factors that may have contributed to students’ improved scores included: student mediated contact with the course material prior to classes, benchmark and formative assessments administered during the module, and the interactive class activities.


... recorded lectures had a positive effect on student achievement because they enabled students to revisit a lecture, and take more detailed notes … lecturers who are considering using recorded lectures should also explore ways to make sure students are given opportunities to engage in problem solving situations themselves in small group settings, and with appropriate feedback.”


“At the end of the project, 66% of the students (n= 256) indicated that they had used the online lectures…. An additional 44.9% of all respondents indicated that they welcomed the e-learning programme as a way to view specific lectures. The average attendance of face-to-face lectures did not decrease.”


“But by taking notes at home, an additional 30 minutes of class time was added to learning time. This extra time allowed Townsend to directly work with students on projects, lab assignments, or activities, ensuring along the way that students understood the material. He was also able to identify students who needed extra help or were too shy to raise a hand requesting help.”