

Teaching with technology

The key to the effective use of technology in teaching is to use technology to support and facilitate learning objectives when it is appropriate: it is critical not to adopt technology simply because it is available but to use it to enhance learning. One of my main teaching goals is to promote student interaction in their own learning. Personal response systems (PRS), if they are available, are a great way to get students involved, especially in large classes. Students enjoy actively interacting with course material and their responses can be used to jump start a discussion, check student understanding of a freshly introduced topic, or review material from a previous class. If a PRS is unavailable, however, similar low-tech methods can be used with note cards or post-it notes to evaluate student understanding, but the anonymity provided by a PRS can be really beneficial to effective evaluation of student learning.

Learning management systems, such as Blackboard, can also facilitate student interaction in their learning by providing students with ways to interact outside of class through discussion boards or wikis, for example. Blackboard also provides an easy way to make course materials available to all students which means less in-class time spent on details of course management and more class time spent interacting and actively learning (this is similar to the “inverted classroom” suggested by Platt and Lage (2000)). Blackboard can also be used to give students quizzes before class to prepare them for discussions or to give tests outside of class so as to save class time for activities that are impossible to do online, such as field trips or lab experiments (Bowen 2006).

Powerpoint, and other presentation software, has been criticized as being a poor technology for teaching because it can foster a passive learning environment in which students simply sit and takes notes while the professor lectures. While I do not disagree that this outcome is possible, using Powerpoint does not have to result in passive learning. I think Powerpoint is a very powerful tool for presenting students with visual displays – especially displays of ecological data – because it enables students to experience what real ecological data are like. Ecological data tends to be inherently “messy” and does not follow the text book examples usually presented in statistics classes. As a result, with Powerpoint I can easily present visual displays of my own ecological data and have students interact with those data becoming more comfortable with the process of analyzing ecological data. However, I avoid using Powerpoint for an entire class period. From my own experience as both a student and an instructor, it is important to intermingle other activities, such as class discussions or small group brainstorming sessions, to control student attention and refresh their interest in a topic (Middendorf and Kalish 1996).

I have found learning to effectively use technology very empowering and it has greatly improved my communication skills. As a result, when possible, I like to include goals for my courses that include learning to effectively use technology such

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as (1) how to make an effective power point presentation or (2) how to design and create your own website using html and Dreamweaver. Acquiring these skills can easily be intertwined with other learning goals such as reporting to the class about one's research project or group project. As part of my course objectives, when possible, I include learning useful technologies so that students gain both an understanding of course material and a new communication skill which will be useful in their careers.

References

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