Journal of Teaching and Learning with Technology, Vol. Vol. 13, Special Issue, pp.1-2.
doi: 10.14434/jotlt.v13i1.40781

Introduction: Applying Technology to Enhance Large-Enrollment Classes

Benjamin Burlingham
Indiana University Bloomington
bburling@iu.edu

Recent advances in the science of teaching and learning have opened the eyes of many instructors to course design, instructional practice, and assessment techniques intended to enhance and individualize student educational experience. Achieving these goals is difficult enough in a class of 20 students, but these challenges are only magnified in large-enrollment courses comprising anywhere between 100 students in a classroom to numerous sections of 500+. Instructors of large-enrollment classes share a common concern: How can one person provide engaging learning opportunities and assessments to meet the unique needs of each student when faced with a sea of faces in the classroom? Considering these overwhelming challenges, some instructors are asking, "Is the use of technology in the classroom the solution?"

Yet, while technological resources abound, their incorporation into the classroom experience is often slow at best. What holds us back from using new educational technology? For some, it is our own perceived lack of tech understanding, and for others, the sheer plethora of unfamiliar options makes us hesitant to incorporate new technology in our courses. For other instructors, it might be difficult to envision how technology would fit in our current situation, making it easier to stick with the familiar. Or maybe we simply have not even considered that technology could help with the challenges of our particular context.

We hope you find help for overcoming these barriers in a series of *Quick Hits* that will familiarize you with practical and doable options. These Quick Hits center around two themes. First, technology can be used to facilitate effective pedagogical practices that are difficult to implement on a large scale. Proctor and Hayslett provide insight into the creation of a Moodle course to more effectively conduct team-based learning in a large-enrollment pharmacy course. A contribution from Davis presents the delivery of a flipped classroom in physiology, facilitated by Notability and PlayPosit, that both increases participation before class and encourages more effective engagement in the classroom. Finally, Paul and Caudell make a compelling case for the importance of peer feedback in group projects and then describe a novel application that helps instructors monitor feedback in real time.

A second theme that emerges is that technology can be used to individualize the way we address the needs of students, even in a large cohort. To better personalize student support in an asynchronous online introductory healthcare course, Johnson outlines the use of module conditional release and batch messaging. Porter and Arnold describe the use of whiteboard technology in targeted help sessions that encourage collaboration and engagement, reaching students at their perceived need. Technology is even being used to enhance highly individualized personal development: Moseley and coworkers outline a way to use a cloud-based collaborative whiteboard to create the environment necessary for the development and assessment of professional identity formation in a group of 1st-year pharmacy students.

Do you need a picture of how technology can enhance the effectiveness of formative and summative assessments in a large-enrollment class? In this issue, Hansel and coworkers present a comparative *Case Study* of the use of Gradescope in math and chemistry classrooms, detailing the benefits that students receive.

Last, but certainly not least, issues surrounding academic honesty are a formidable challenge in the large-enrollment classroom—can anything be done to address them using technology? An *Article* by Schmitz and Storey presents a thorough literature review of the social nature of learning and academic integrity and then presents StartHere, a new tool for compulsory attribution and the benefits afforded to the students who use it.

If you are a large-enrollment class instructor and empathize with any of these challenges, we hope that you find the current issue to be both an encouragement and support as you seek to implement technological solutions.