How to Incorporate Problem-Based Learning in Large Classes Using the Learning Management System

What is this Research About?

Large undergraduate courses, specifically first-year courses, run into challenges such as engagement and self-directed learning due to their limited resources. Problem-Based Learning, or PBL, is a teaching strategy that highlights the use of critical thinking and self-directed learning by having students solve real-life scenarios. The purpose of this study was to investigate the effectiveness of PBL without the need for any additional resources.

What did the Researchers Do?

The researchers measured students' perceptions of two learning activities and final grades in a large first-year undergraduate anthropology class at the University of Toronto Mississauga. Students chose between a passive learning option and an active PBL option, with each option worth 6% of their final grade. The students who chose the passive option watched video segments that summarized chapters of their textbook and then answered questions regarding the video. The students who chose the PBL option participated in monthly virtual mystery discussions. Both options were facilitated through the learning management system. The mystery discussions included anthropology case scenarios with photographs related to the lecture and reading material for the week. Additional written and visual 'clues' were released each week. One mystery required students to take on the role of a biological anthropologist to identify a specimen found on an isolated beach. The students were required to post weekly discussion board questions and comments that aided them in finding the information required to solve the mystery. The students' grades depended on the thoughtfulness and validity of their questions and comments and not on their ability to solve the mystery. At the end of the course, the researchers surveyed the students about the learning activities and compared their final grades.

What did the Researchers Find?

The researchers found that students rated both learning options as highly valuable learning tools. Regarding participation, the students who chose the passive video option had 12% higher participation rates than students who chose the PBL option. Neither method affected the grades of the students. The use of active PBL principles for self-directed learning and critical thinking was found to be a useful tool in engaging students in large courses without requiring any additional resources.

SoTL Snapshot

A synopsis of a scholarship of teaching and learning journal article

How to Implement this Research in Your Classroom

Problem-based learning (PBL) is a helpful tool that emphasizes lifelong skills such as critical thinking, self-directed learning, and collaborative problem-solving. The researchers found that students who were given the option to engage in PBL by solving course-related mysteries, rated PBL as a valuable learning experience that allowed them to 'think like an anthropologist'. This study showed that PBL can be implemented in large classes using the learning management system. Instructors could implement a PBL model to give students an opportunity to apply theoretical learning to practical situations and begin reinforcing active learning habits in large first-year courses.

Citation

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