

Ensure Students Are Learning: Faculty Descriptions of Innovative Teaching Practices

Coding Through Collaboration

Innovative Teaching Practice Description:

In this coding course, this instructor uses various types of problem-based learning activities to help reinforce course concepts while encouraging collaboration. The basic format of the class follows a read-review-practice format in which the students are expected to read material before class that the instructor then reviews in class. After a short review and discussion, the instructor asks the students to break into groups of two or three to begin a practice session.

This particular classroom is equipped with eight whiteboards, and the goal is to have one group at each board. The instructor provides students with a prompt that details what a code should accomplish. Using what they learned from the readings and the review, students must write a code on the whiteboard that will accomplish the designated task. To ensure that each student participates, students are instructed to write one line of code and then give the marker to another person on the team. Each student in the group takes turns writing one line of code until their full program is written. As students are writing their code, the instructor walks around the room to engage with each group, answer questions, and provide feedback. After each group completes their code, the instructor selects a group to share their completed code with the rest of the class. Students earn group participation credit for the activity.