

7.

Flipping the Chemistry 105 Classroom

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The flipped classroom model moves much of the content from a traditional lecture to activities that are completed online prior to class. Class time can then be devoted to active learning and problem solving, giving the instructor the opportunity to provide real-time feedback to students. This model was implemented for the first time in fall 2018 in Ch105, Principles of Chemistry: Introduction to Molecular Science. The main goal of the change was to increase the amount of time that students spend on problem solving. Over the past few years, it was observed that students spent less time on solving problems outside of the classroom. This translated to poor performance on exams and lower retention of students in the sciences than was desired. In fact, the fall 2017 cohort performed at the lowest level seen on the American Chemical Society National Exam in the 8 years since the instructor began using such exams. The flipped classroom approach dramatically increased the number of problems students worked on throughout the semester. This presentation will overview the structure of the course and discuss the initial observations about improved student performance using this model.

Learning Outcome(s): Participants will learn about a model for a flipped classroom in the sciences. Details regarding implementation and student performance will be provided.