

Trent University Chemistry/Physics Seminar Series

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Flipped and blended chemistry courses: structures, implementation consideration, and evaluation

To promote student learning and success, I recently “flipped” and “blended” four undergraduate organic chemistry and spectroscopy courses at the first to third year level (17–420 students). In a flipped course, content traditionally delivered in lectures is moved online; class time is dedicated to learning activities. In a blended course, some class time is additionally relocated to another purpose. To structure the courses, I developed and analyzed each course’s intended learning outcomes (ILOs) to decide which course components would be delivered online and which would be addressed in class. Each course component was aligned with the ILOs, including the short videos that replaced lectures, online and in-class learning activities, and assessment. I designed the activities to scaffold students’ skill development, promote higher order thinking, and address obstacles that educational researcher has identified. I evaluated the impact of my new flipped courses’ structure using Guskey’s evaluation model, which examines students’ reactions, learning, organizational support and change, students’ use of new knowledge and skills (not addressed in this study), and students’ learning outcomes. Since the original implementation, other faculty members have adopted my course materials and the flipped course structure in whole or part. In this presentation, I will discuss the course’s design, evaluation of the results, and the process of “translating” course materials.

All Welcome!