Longitudinal Investigation of Chemistry Students' Studying Decisions and Changes

CHM 644 Seminar
Friday, March 27, 2026
Beaupre 105 – 2:00 pm

KENDRA KEENAN

Department of Chemistry

Student study habits have primarily been investigated using study habit questionnaires that focus on students' study approaches and the amount of time spent studying. Previous literature suggests that students use a variety of strategies that may not be the most effective, which has been attributed to the limited formal training they receive regarding studying. However, these surveys lack insight into the reasons behind students' choices, which are necessary to inform interventions to improve students' study habits. As students' study habits have been found to change over time, it is important not only to understand the reasons behind their study choices but also to examine their decision-making longitudinally. In particular, it is important to examine the shift from General chemistry I to Organic Chemistry I, as prior research identifies these courses as the earliest points at which students begin to reevaluate their study habits.

Initially, 16 General Chemistry I students were interviewed about their approaches to studying chemistry. Of these students, 6 volunteered to be interviewed again in General Chemistry II, and 5 volunteered to participate again in Organic Chemistry I. Data were analyzed using inductive and deductive coding, informed by Self-Regulated Learning, Cognitive Load Theory, and Desirable Difficulties as lenses for understanding students' study choices. This seminar will present findings showing that students' decisions are more influenced by their beliefs than by the effectiveness of the study strategies themselves. In addition, implicit messages from instructors and assessments influence students' decisions, particularly regarding which content or knowledge is perceived as more meaningful or important. Implications of students' reasons for choosing specific study strategies will be presented, with a focus on how these decisions change from General Chemistry I to Organic Chemistry I.