



## Department of Chemistry Seminar Series Fall 2022

Friday, December 2, 2022, 3:30 PM - **HS1 O112 (Health Sciences)**

Host: Erin Saitta

### Following Faculty Engaging in Collaborative Action Research to Approach Curricular Change in Undergraduate Biochemistry



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This study observed the curricular redesign of an undergraduate biochemistry course by a collaborative action research group. The initial portion of this study investigated student conceptual understanding of foundational concepts via a rigorously tested concept inventory. The impact of the redesign on the student foundational conceptual understanding was determined by comparison with a baseline data set. Findings suggest that students enter and exit the biochemistry course with little understanding of key foundational concepts. Examination of student performance after the incorporation of creative exercises showed a significant impact of the curricular changes on two of the concepts of interest. A qualitative analysis investigated the approaches students take while working through the creative exercises via think aloud interviews. The findings were used to propose a model of student approaches to solving creative exercises which reveals both critical and promising features. The final portion of this study explored the experiences of the faculty as they participated in the action research on undergraduate biochemistry education. Through the faculty interviews, descriptions of their experiences and reflect on data collected from the project provides a deeper understanding into the curricular design and perspectives on the collaborative action research process