Promoting Metacognitive Skills Development in Students

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University students who are capable of more accurate self-monitoring and self-assessment usually outperform less accurate students. Instructional support can scaffold learners in the acquisition of self-monitoring and self-assessment skills. The need for the teaching of these metacognitive skills is one of the main implications of research on the teaching and learning of science that has emerged during the past three decades.

This presentation will introduce the concept of metacognition – what it is, how it can be taught and how it is assessed –, describe a co-curriculum of metacognition that has been implemented in an introductory organic chemistry course at Wilfrid Laurier University, and disclose results of research related to the metacognition co-curriculum. This co-curriculum can be embedded in any course within any discipline.

*Dr. Steve MacNeil* has been a faculty member in Wilfrid Laurier University’s Department of Chemistry & Biochemistry since 2003. He teaches introductory and intermediate organic chemistry, striving to convince students that organic chemistry is not the horror show it is made out to be. In 2011, he received Wilfrid Laurier’s Award for Teaching Excellence (full-time category); in 2012, the Ontario Confederation of University Faculty Associations (OCUFA) named him as one of Ontario’s most outstanding university teachers; in 2013, he became a Laurier Teaching Fellow; and in 2018, he was honoured with a D2L Innovation Award in Teaching and Learning. His research focuses on the implementation of metacognitive strategies to improve student learning in organic chemistry.