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Cognition of Counterexample in First Year University Mathematics Students

In this talk I will describe a study in its initial stages conducted at both the University of Winnipeg (MB) and Cape Breton University (NS) that investigates relationships between logical skill preparations and positive student outcomes in two first year university mathematics courses, a first year calculus course and a mathematics course for future elementary school teachers.

In joint work with S. Rodney (CBU) this initial study considers the potential of a brief treatment of logical implication and counterexample to improve comprehension and performance among students enrolled in a first year university mathematics course. Using a pretest-intervention-posttest experimental design, student data was collected via interview and written assessment. An analysis of this data explores how logical reasoning skills affect course outcomes and mathematics anxiety.