

Students' Logical Reasoning in Undergraduate Mathematics Courses

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Abstract

This preliminary report describes research results from a pilot study conducted at Salisbury University on undergraduate mathematics/computer science students' understandings of logical inference. The study was guided by a theoretical framework derived from APOS theory and Balacheff's theory. The results from the pilot study are crucial for the implementation of a proposed study to be conducted during the 2011-1012 academic year at Salisbury University. The main purpose of the study is to describe students understandings of logical inference in ways that will have implications for providing better instruction in their undergraduate mathematics courses.

Keywords: student understandings of proof, logical inference, transition to proof