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Bridging Mathematical Reasoning and Communication in Learning

Mathematical reasoning and communication are both fundamental to understanding mathematics, yet they are often treated as separate skills. While proof writing and problem-solving emphasize logical rigor, the clear articulation of mathematical ideas is not always given equal weight. This disconnect may shape how students engage with and internalize mathematical concepts.

This talk presents findings from a study investigating students' experiences and perspectives on the relationship between reasoning and communication in mathematics. Drawing on surveys, interviews, and discussion-based activities with both university students and high school students involved in competitive mathematics, the study explores how learners navigate these skills and whether they perceive broader benefits to engaging in mathematical reasoning. The talk will conclude with implications for mathematics education, including strategies for more effectively integrating reasoning and communication to support deeper understanding and student engagement.