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The assessment of mathematical logic: Abstract patterns and familiar contexts.

Pateman, Neil A. et al., Proceedings of the 27th Conference of the International Group for the Psychology of Mathematics Education held jointly with the 25th Conference of PME-NA. Vol. 4. ,. 283-290 (2003).

Undergraduate students' written exams were analyzed from a freshman-level mathematics course that emphasized, among other topics, the study of mathematical logic. Findings indicate that on questions related to the negation of a conditional sentence, students performed much better when given natural-language contexts than they did on questions presented in abstract form. However, students showed improvement over time only on the abstract questions. These results raise doubts about the validity and efficacy of using natural-language examples to promote and test the understanding of symbolic logic.

Classification: E35 D65