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An Innovative Way of Teaching and Assessing Critical Thinking in Mathematics

Abstract

Fake news, conspiracy theories, information wars and deep fakes are getting more common in our society. Therefore, abilities to recognise mistakes and think critically are very important nowadays. Including so-called provocative questions in teaching and assessment in mathematics can enhance students' critical thinking skills. Such questions look like typical routine questions but in fact that have a catch — they are deliberately designed to mislead the solver. The intention is to prepare students for real life better by transferring their critical thinking skills outside the classroom. Results of several studies on attitudes of school mathematics teachers' and university mathematics lecturers towards using provocative mathematics questions in teaching and assessment are presented in the talk. Practical recommendations for teaching practice and professional development with many examples are also discussed.