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Diversity in middle school mathematics teachers' ideas about mathematical models: the role of educational background.

Ubuz, Behiye (ed.) et al., CERME 8. Proceedings of the eighth congress of the European Society of Research in Mathematics Education, Antalya, Turkey, February 6–10, 2013. Ankara: Middle East Technical University (ISBN 978-975-429-315-9). 960-969 (2013).

Summary: The purpose of this study was to explore the relationship between mathematics teachers' educational backgrounds and their ideas about 1) what constitutes a mathematical model of a real-world phenomenon, and 2) how models and empirical data relate. Participants were 56 United States (US) in-service mathematics teachers (grades 5–9). We analysed teachers' written responses to three open-ended questions through content analysis. Results show our participants do not hold a unitary understanding of mathematical models. Teachers with backgrounds in mathematics education and science disciplines especially stressed the usefulness of models to show general relationships, whereas those with backgrounds in other disciplines stressed the importance of producing exact results.

Classification: M19 D39 B50

Keywords: mathematical models; real-life problems; teachers' educational backgrounds