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Mathematical modeling: how can students learn to model?

J. Math. Educ. Teach. Coll., Proceedings: Conference on Mathematical Modeling, 54-61 (2013).

Summary: This paper deals with the learning and teaching of mathematical modeling. After a definition of modeling competency, some empirical results about students' learning of modeling will be reported. After that, five criteria for quality teaching of modeling will be discussed. Finally, a modeling unit for the ninth grade will be presented, as well as some results of the accompanying research.

Classification: M10 D30 C30 D83

Keywords: mathematical model building; learning; teaching; meetings; modeling competency; independent learning; quality teaching; cognitive activation; teacher feedback; student activities; teaching units; research; real-life mathematics; mathematical applications

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