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Authenticity of mathematical modeling.

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Summary: Some students leave high school never quite sure of the relevancy of the mathematics they have learned. They fail to see links between school mathematics and the mathematics of everyday life that requires thoughtful decision making and often complex problem solving. Is it possible to bridge the gap between school mathematics and the mathematics in students' lives while developing a positive attitude toward mathematics? Incorporating tasks that are situated in real-life contexts and involve modeling can address these demands. These types of tasks may help students see the purpose of mathematics. In this article, the authors examine criteria that teachers can use to choose tasks that embody modeling. Their choices may offer some ways to create better student performance. They provide examples to illustrate modeling activities linked to the Common Core State Standards for Mathematics and present two frameworks – authenticity and modeling hierarchy – to analyze problems. They then use these frameworks in selecting and designing tasks to promote student engagement and learning. (ERIC)

Classification: M10 D50 D30

Keywords: relevance; engagement; word problems; problem solving; modeling; authentic problems; real-life problems

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