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Assessment of mathematical modeling.

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Summary: Modeling is now being given prominence as one of the six high school subject areas in the standards for mathematical content in the common core state standards for mathematics (CCSSM). The CCSSM document suggests that mathematical modeling should not be taught as an isolated topic but instead should be employed along with other topics. The essence of a modeling problem is constructing a mathematical model for the situation at hand. Assessing mathematical modeling is a new field that requires more study. Developing more tools and ideas to assess modeling tasks is essential and beneficial for mathematics teachers. Rubrics that assess the modeling process are a good beginning in finding suitable methods of assessing mathematical modeling. This article provides two methods for assessing modeling tasks. The first is a scoring rubric that is based on the process of CCSSM's modeling cycle while the second instrument intends to assess the affective domain of mathematical modeling.

Classification: D60 M10

Keywords: mathematical model building; educational diagnosis; achievement measurement; analysis of learning outcomes; assessing competency; common core state standards for mathematics; modelling cycle; modeling tasks; rubrics; affective variables; motivation; self concept; student attitudes

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