

Abstract Submitted
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Strength of Student Models of Force and Motion¹ CECELIA T. MARKES, University of Nebraska at Kearney — With a three-year FIPSE grant, it has been possible to develop and implement activity-based algebra level introductory physics. The Force and Motion Conceptual Evaluation (FMCE) has been given as a pretest and a posttest to both the traditional lecture/lab classes and the activity-based classes. The responses are analyzed to determine the models that students use. The questions are separated into eight groups. Responses are divided into expert model, student model, and null model. Students are categorized as being in an expert state, a mixed state, or a student state. Previous work assumed a particular model if the answers to 70 percent (or more) of the questions in a group fit that model. To determine the strength of the models, the analysis is repeated assuming 85 percent and then 100 percent. The results are analyzed to determine if there is a significant difference from 70 percent to 85 percent to 100 percent. This will indicate the strength of the models in each group of questions.

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