

Abstract Submitted
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Changes in Student Models of Force and Motion in Activity-Based Physics¹ C. TRECIA MARKES, University of Nebraska-Kearney — With a three-year FIPSE grant, it has been possible at the University of Nebraska at Kearney (UNK) to develop and implement activity-based introductory physics at the algebra level. Many misconceptions about motion and force persist after instruction. Pretest and posttest responses on the “Force and Motion Conceptual Evaluation” (FMCE) are analyzed to determine the models that students use. Responses are divided into expert model (correct answer), student model (common incorrect answer), and null model (all other answers) categories. Students are categorized as being in an expert state (mostly expert model answers), a mixed state (a combination of expert model answers, student model answers, and null model answers), or a student state (mostly student model answers). The change (if any) of state is identified for each student. The changes are analyzed to determine the effectiveness of activity-based instruction.

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