

Abstract Submitted
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Modeling Student Understanding of Probability PORNRAT WAT-TANAKASIWICH, KENNETH KRANE, Department of Physics, Oregon State University — The main goal of education is to help students learn effectively, so we need to understand how students construct knowledge. Knowledge is a complex system, so to develop an understanding of how knowledge is constructed requires a model. Based on the fundamental principle of constructivism, Redish (2003) proposed a theoretical framework for modeling student thinking. His model consists of a two-level system—a knowledge-structure level where associational patterns dominate and a control-structure level where one can describe expectations and epistemology. In order to confirm this theoretical framework, an analysis based on this framework was used to examine interview data that was collected to investigate student understanding of probability and related concepts in a modern physics course. The results will be reported and discussed.

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