

This paper presents a learning model, known as the Stochastic Learning Paths - With Exponential Learning Times Model, (SLPEXP for short). This model uses a latent class approach for student knowledge representation. Learning is modeled by using a single continuous latent variable, the learning rate, to explain transitions between the classes. THE SLPEXP is intended to model data arising when the same sample of students are tested repeatedly on essentially the same curricular material. Theoretical details of the SLPEXP, an experiment and data intended to test the model, and techniques for the analysis of data are presented in this paper.