

COMPUTATIONAL BEHAVIOR MODELING FOR ADAPTIVE LEARNING MANAGEMENT SYSTEM

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ABSTRACT

Majority of the Learning Management Systems reported in the literature do not consider the individual differences of students, including their different background knowledge, cognitive abilities, motivation, and learning styles. Such systems do not allow for the learner to have a unique personalized learning experience.

Cognitive styles and learning styles separately do not accurately describe the student behavior. A survey of literature reveals that not much work has been done on development of models that incorporate the two domains in student behavior modeling. This research proposes to address this gap by developing a hybrid model based on Fielder Silver Learning Style and Cognitive Traits Model to improve the learner behavior identification process. This would in turn lead to a system with a better personalized learning experience.

A prototype that automatically reads the patterns and groups learners will be developed to test the concept and integrated with an existing learning management system. Students will access the system over a period of time to enable us collect data. The model will be evaluated by having students fill Index of Learning Style questionnaire and having the same group perform operation task span to establish cognitive behavior then compare its results with those generated by the proposed model to test the accuracy, precision and recall

It is envisaged that a new model shall combine learning styles and cognitive traits. This model addressed the above knowledge gap. A hybrid computing approach in education psychology for identifying learner behavior using a blended model that can be adopted by Learning Management

Key words: eLearning, Online Learning, Cognitive Style, Learning Styles