

# Personalized E-learning Recommendation Model Based on Psychological Type and Learning Style Models

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Abstract-E-learning has become an essential factor in the modern educational system. In today's diverse student population, E-learning must recognize the differences in student personalities to make the learning process more personalized, and to help overcome "one-size-fits-all" learning model. Each learner has a different learning style and different individual needs. This study proposes a data-driven recommendation model which uses the student's personality and learning style in order to recommend the learning course presentation or objects way. The data model identifies both the student personality type and the dominant preference based on the Myers-Briggs Type Indicator (MBTI) theory. The proposed model utilizes data from student engagement with the learning management system (Moodle) and the social network, Facebook. The model helps students become aware of their personality, which in turn makes them more efficient in their study habits. The model also provides vital information for educators, equipping them with a better understanding of each student's personality. The predicted personality preference was used to match it with the corresponding learning styles from Kolb's model. An experiment of the recommendation model was tested on a sample of students, and at the end a t-test was applied on some collected behavior from our student sample dataset to validate the model. The results indicate an improvement in the students' engagement and commitment to the course after applying the research data-driven model on the e-learning system.

Keywords-e-learning; learning style; myers-briggs;  
kolb; recommendation; social networks; moodle.