Predicting Student Personality Based on a Data-Driven Model from Student Behavior on LMS and Social Networks

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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. The objective of this study is to create a data model to identify 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. With this knowledge, educators will be more capable of matching students with their respective learning styles. The proposed model was applied on a sample data collected from the Business College at the German university in Cairo, Egypt (240 students). The model was tested using 10 data mining classification algorithms which were NaiveBayes, BayesNet, Kstar, Random forest, J48, OneR , JRIP, KNN /IBK, RandomTree, Decision Table. The results showed that OneR had the best accuracy percentage of 97.40%, followed by Random forest 93.23% and J48 92.19%.**

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