Prediction of Students' Performance in Mathematics Subject Using Logistic Regression

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ABSTRACT

Predicting students' academic performance plays an important role in academics. Mathematics is a science concerned with the logic of shape, quantity, and order. This subject is one of the most important subjects in the school curriculum. Mathematics is a basic knowledge that students should have the expertise in order for them to score in the other subjects. As most students find Mathematics a difficult subject, they will have difficulty scoring in this subject. Therefore, this study will focus on the factors that could affect the performance of mathematics subjects. This paper aims to predict a student's performance in mathematics subjects and the factors that affect their performance. This paper only predicts the pre-calculus subject among students of CS110 in UiTM Cawangan Jasin. A questionnaire has been distributed through Google Form that consists of two parts, which are part A and part B. Part A is the questions about their demographic profile. In contrast, part B contains the questions about their assessment marks and their time spent studying pre-calculus subjects per week. After analyzing the questionnaire results, the results were interpreted using SPSS software. The logistic regression model was applied, and the results showed that the place of residence, time spent studying pre-calculus per week and quiz 1 are variables that are significant to the model. Numerous internal and external factors might have an impact on a student's academic performance. Only a few of the variables influencing students' accomplishment scores were examined in this study which are gender, grade for MAT133, place of residence, whether the student took Additional Mathematics in SPM, time spending to study pre-calculus subject and the assessments.

Keywords: Prediction students' performance, Logistic Regression, SPSS