Predictors of Student Engagement in Science Learning: The Role of Science Laboratory Learning Environment and Science Learning Motivation

ABSTRACT

Student engagement is one of the indicators of a successful teaching and learning process. Many studies claim that student engagement is associated with the performance and achievement of students. In this study, the researchers aimed to determine the effects of science laboratory environments and science learning motivation towards student engagement in learning science among non-science students. 468 upper secondary non-science students in Sarawak were involved in this survey with the administration of three sets of questionnaires on science laboratory environment, science learning motivation and student engagement in science learning. Multiple regression was used to analyse the research questions. Both science laboratory learning environment (r = 0.523) and science learning motivation (r = 0.670) are found positively correlated to student engagement. The results also revealed that the science laboratory learning environment and science learning motivation are significant predictors of student engagement in learning science with R2 = 0.463. Specifically, student cohesiveness, open-endedness, integration and material environment in the science laboratory learning environment and all the dimensions of motivation predict student engagement in science learning. The findings suggest that educators, especially science teachers, should utilise the laboratory effectively and keep students motivated to ensure their active engagement in science learning.