

Effects of motivational adaptive instruction on student motivation towards mathematics in a technology-enhanced learning classroom

ABSTRACT

This quasi-experimental study sought to investigate the effects of the motivational adaptive instruction on Malaysian students' motivation towards mathematics in a technology-enhanced learning classroom. Geometer's Sketchpad is used in the study to foster a technology-enhanced learning environment. The motivationally adaptive instructions were designed following the Attention, Relevance, Confidence, and Satisfaction (ARCS) motivational model. The study adopted a non-equivalent control group design with pre-and posttest with two weeks of treatments. Two intact Form Two classrooms were randomly assigned to an experimental group and a comparison group — each with 20 students. The findings showed that Malaysian students had a slightly above-average level of motivation towards mathematics. The ANCOVA results showed that the intervention did not significantly improve the experimental group's students' motivation towards mathematics learning, despite having their motivation mean scores improve from Time 1 to Time 2. The results also showed that motivation and mathematics performance were not strongly correlated for this group of students. The weak relationship between motivation and mathematics performance among Malaysian students may be explained by the culture and value of East Asian towards education, which is discussed in this paper.

Keyword: Motivation; Mathematics; ARCS motivational model; Malaysia; Geometer's Sketchpad; Dynamic geometrical software