

Differences in students' mathematics engagement between gender and between rural and urban schools

ABSTRACT

The purpose of this study was to explore secondary school students' mathematics engagement focusing on the cognitive, affective and behavioural engagement domains. A total of 387 students (186 male and 201 female) from the urban and rural secondary schools in Pahang, Malaysia, were randomly selected. There were 158 students from the urban schools and 229 students from the rural schools. Descriptive analyses for mathematics engagement domains revealed behavioural engagement had the highest mean ($M = 3.74$, $SD = .63$), followed by cognitive engagement ($M = 3.56$, $SD = .43$) and affective engagement ($M = 3.48$, $SD = .47$). The mean for students' overall mathematics engagement was 3.56 ($SD = .46$). Further analyses showed there were significant differences in each of the engagement domains in mathematics learning (affective, cognitive and behavioural), where students in the urban schools showed significantly better in the mean scores for affective, cognitive, behavioural domains and the overall mathematics engagement as compared to the students in the rural schools. Similar findings also showed there were significant differences in the overall mathematics engagement mean between the genders. The findings indicated girls were significantly better than boys in all (affective, cognitive and behavioural) of the engagement domains in mathematics learning. It was also shown girls had higher overall mathematics engagement mean as compared to boys. However, the study also indicated the overall students' mathematics engagement was at a moderate level. Besides, the rural school students did not show high mathematics engagement as compared to the urban school students. Further analyses showed girls significantly had better mathematics engagement as compared to boys. Hence, it is recommended that in order to optimize students' mathematics engagement, they should be actively engaged in more participative learning activities in mathematics classrooms. Focus should be given to rural schools and also among the boys.

Keyword: Mathematics engagement; Urban schools; Rural schools; Students