

Students' perceptions about the use of minimalist robotic games in geography education

ABSTRACT

Recent trends show the number of students studying geography in upper secondary school is declining. Among the reasons identified is that geography is perceived as a very tedious and difficult subject to study. With the rapid development of technology in the twenty-first century, the use of multi-media tools and technologies in education have given a new dimension to the process of teaching and learning. One of the most widely used technological tool is robots. Therefore, this study was conducted to evaluate the perceptions of high school students who are using minimalist robotic games for teaching and learning activities in Geography. Qualitative research methods were used to collect the research data. In total there are 15 groups of students participating in the Science Technology Engineering and Mathematics (STEM) Education Carnival; each group consists of three to six members who have created a minimalist robot game for the subject of Science, Mathematics and Social Sciences. However, there are only two groups of students consisting of two male and four female students who created games for Geography. Therefore, a purposive sampling method was used to select students from these two groups. Six students who participated in the development of a minimalist robotic game for Geography in the STEM education carnival were selected and interviewed. Semi-structured interviews were conducted at the end of the carnival. The data analysis of the interview shows five out of six students had a very positive perception of using minimalist robotics in Geography education. In addition, this study also showed that the use of minimalist robotics in the teaching and learning of Geography also changed the interest and attitudes of students towards learning Geography. The application of minimalist robotics also enhances students' intrinsic motivation to study Geography. implications of this study suggest that minimalist robotics games are an alternative technology teacher can integrate into teaching and learning activities for Geography in schools to enhance students' interest in learning about this subject.