COGNITIVE SCIENCES AND HUMAN DEVELOPMENT

Self-Efficacy in Learning Mathematics Online

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ABSTRACT

Online learning has been a need for worldwide education systems due to Covid-19. It is essential to study the students' self-efficacy to determine online learning success. Research suggests that self-efficacy can boost student achievement, foster emotional health and well-being, and be a valid predictor of motivation and learning. The purpose of this paper is to examine the students' self-efficacy in Mathematics online learning using a reliable instrument adapted from the "Learning Self-Efficacy Scale (OLSES)" developed by Zimmerman and Kulikowich in 2016. The respondents consisted of 343 undergraduate students in Sarawak, Malaysia. This study's quantitative data analysis methods include descriptive and inferential statistics. The analysis reported that most of the respondents had moderate to high levels of self-efficacy, whereas most of them were comfortable with Mathematics online learning. Specifically, there was a significant relationship between students' self-efficacy and the domains, namely learning in an online environment, time management, and technology use. This study also found no significant difference in the mean scores of students' self-efficacy concerning gender, academic performance, and online learning prior experience. However, there was a significant difference in mean scores for students' self-efficacy across their online learning comfort levels. Further analysis indicated that students who were notably comfortable projected a significantly higher self-efficacy than those with an average or low comfort level. Although the students in this study mostly had moderate to high levels of self-efficacy, there is still room to improve and strengthen their self-efficacy, especially in their abilities and readiness to engage in online learning and thus in achieving good academic performance.

Keywords: self-efficacy, comfort level, OLSES, Mathematics, online learning