

## **A mixed method study on online learning readiness and situational motivation among Mathematics students using gamified learning objects**

### **ABSTRACT**

The trend of employing game features into non-game contexts or gamification has increased in recent years. Gamification has the potential to be a new paradigm in enhancing online user engagement in the online based education system. As Mathematics subjects is normally associated with a high drop-out rate, especially among students who have encountered low mathematical performance in their past, the implementation of gamification may support more successful online learning for this subject. Three undergraduate classes with at least four months experience in using any gamified learning objects implemented using Kahoot!, Socrative or Quizizz were selected as a case study. This study aimed to examine the association between Situational Motivation with the dimensions of Online Learning Readiness using a mixed-methods-approach. 34 students voluntarily answered an online survey and a total of twelve participants were purposively selected to answer open-ended questions. The results showed that significant positive associations were found between students' online learning readiness in three dimensions (technical competencies, social competencies with classmates, and social competencies with lecturers) with both identified and intrinsic motivation. No such association between students' online learning readiness dimensions and amotivation was found for students who participated. This finding can provide a better understanding of how situational motivation relates to students' online learning readiness among students using gamified learning objects. In addition, Mathematics educators may consider applying the findings into the design of their gamified learning objects to improve the students' online learning readiness.

**Keyword:** Online learning readiness; Situational motivation; Mathematics; Gamification; Learning objects