Abstract No. 32 ***Mathematics Education***

USING KAHOOT AS A MATHEMATICS ASSESSMENT TOOL FOR JUNIOR SECONDARY LEVEL STUDENTS IN SRI LANKA

L.D.N.G. Liyanage[1*], W.M.G. Udayanga[1] and L.D.R.P. Liyanage[2]

[1]Ministry of Education, Sri Lanka
[2]Institute of Technology, University of Moratuwa, Sri Lanka
[*]ldnirma99@gmail.com

This study focused on the effectiveness of using Kahoot as an assessment tool for assessing knowledge of "multiplying fractions" among junior secondary school students. It was observed that around 67% of the students provided incorrect answers and/or struggled to provide correct answers for questions on "fractions" at both term tests and written assessments. Hence, in this study, the lesson on "multiplying fractions" was selected for a mathematics assessment, and many scholars have recommended Kahoot as a suitable tool for game-based assessment. Educators and researchers use Thomas Malone's Theory to enhance learning through games; hence, this theory was used for this study. A mixed-method research design was adopted, and quantitative data were collected using a structured questionnaire with 5-Point Likert Scale after giving Kahoot assessment to students. Convenience sampling of the non-probability techniques was used within the cross-sectional time horizon, and all the 28 students of grade 8 in a class at Type 1C school in the Ratnapura education zone of the Sabaragamuwa Province were included in the sample. After analyzing the primary data through SPSS (Version 27), the test of reliability was given a satisfactory degree of consistency (Cronbach's Alpha = 0.750), which indicates the instrument was reliable. The findings show that students gave strong positive feedback on all the survey questions. Descriptive Statistics Tests confirmed the strong agreement of students towards Kahoot assessment, and a small standard error indicates the preciseness of the responses. Further, Median (5.000) and Interquartile Range (IQR) (0.000) were used since the data was not normally distributed and revealed no spread, which confirms strong agreement among students. Hence, additional statistical tests were not necessary to conduct, but qualitative analysis revealed more insights about the study. The qualitative data was collected through semi-structured interviews. Based on Kahoot game results, the students were divided into three groups for the interview; five students with the top scores, five students with the lowest scores, and five students from the middle range. The Thematic Analysis showed that students experienced technical issues, but did not give up their involvement, instead, Kahoot made the students' experience of assessment enjoyable and motivating rather than traditional paper-based assessments. The attractive graphics and audio features of Kahoot also built up students' curiosity for their active participation and a strong willingness to do more game-based assessments, learning through immediate feedback. These findings will encourage further research on a larger scale and a more diverse group of students to establish long-term influences for more digital assessment tools. In conclusion, this study recommends using Kahoot as an effective assessment tool for lessons on "fractions", which highlights the need for further research in this regard.

Keywords: Game-based learning, Kahoot, Mathematics assessment, Secondary education, Student engagement