Beyond the Microscope: The Role of Gamification in Histology Education

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Abstract

Third-semester Medical Laboratory Technology (MLT) students at Institut Latihan Kementerian Kesihatan Malaysia Kuala Lumpur (ILKKM KL) must master 19 distinct tissue types in Fundamentals of Histology. However, large class sizes (up to 80 students) hinder individualised guidance. This study evaluated the effectiveness of a game-based learning tool, Gimkit, in enhancing student knowledge, motivation, and microscopic accuracy. Sixty-nine semester-3 MLT undergraduates were randomly divided into two cohorts: Control (lectures and lab demonstrations) and Intervention (blended with Gimkit activities). Assessment involved pre- and post-tests alongside a post-intervention motivation survey, with data analysed using SPSS version 31 via descriptive statistics, paired t-tests, and one-way ANOVA. Results demonstrated that the intervention group achieved superior post-test scores in knowledge and microscopic accuracy, with knowledge improvements showing statistical significance. Furthermore, motivation levels were significantly higher among gamification-exposed students. While conventional microscopy remains essential for practical skill development, integrating gamified platforms like Gimkit significantly enhances engagement and histological comprehension. Future implementation should consider expanding gamified learning to other demanding discipline areas, such as microbiology and haematology.

Keywords

Gimkit, Gamification, Histology Education, Microscopic Accuracy, Motivation.