

2nd International Education Conference

09 - 11 August 2024

Berlin, Germany

Generative AI (GAI) Powered Quizzes and Polls in Classrooms to Improve Interactivity and Student Learning

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Abstract

Student engagement within the classrooms is one of the most effective and important components of teaching and learning. However, in recent times, diverse and Transnational Educational (TNE) setups with large classes at Higher Educational Institutions (HEIs) demand innovative ways to capture students' attention to enhance their learning. One of the innovative solutions can be the use of Generative AI-based (GAI) quizzes. Considering the unique set of large diverse class challenges (i.e., diverse learning needs, limited interactivity, lack of active participation, hindrance of effective communication due to language and cultural barriers, etc.), this study investigated the effectiveness and students' perceptions about using GAI-based quizzes based on descriptive analysis. Using a close-ended questionnaire consisting of 7 questions, this descriptive analysis was performed with 33 students at the University of Leeds to investigate the reliability and the impact of using GAI-based quizzes on student understanding, interactivity, active participation, and satisfaction. Results indicate a positive contribution of GAI-based quizzes in large, diverse classrooms in terms of generated quizzes' reliability and students' learning in classrooms. This study is the first to provide insights into students' perspectives on the reliability and effectiveness of GAI-based quizzes in large classes and has important implications for teaching and learning.

Keywords: Active participation, diverse learning needs; Generative AI-based (GAI) quizzes; limited interactivity; Transnational Educational (TNE) Programme