Introduction

Learning Management Systems (LMS) are widely used to assist students in understanding English language learning materials. An LMS is defined as a digital platform that serves as a framework for providing learning content to support online teaching and learning [1]. Previous studies have shown that students' performance on English assignments, particularly quiz completion scores, suggests that their understanding of the English language is still less than optimal. This indicates that many students lack motivation while using the LMS, as evidenced by the results of a questionnaire distributed to students from various regular and distance classes that utilize LMS for English learning. This concern is further supported by feedback from English lecturers at the university, who have noted that ineffective teaching methods and low student motivation can lead to boredom among students. The study emphasized that despite the implementation of the LMS, many students experienced disengagement [2].

This student issue can be addressed by adopting a learning approach that creates an engaging environment within the LMS, encouraging active student participation in learning activities. Such an approach can improve students' grades and understanding of English. LMS as a learning platform is effective for enhancing academic performance and comprehension, as it has been proven efficient in the learning process [3]. Gamification within LMS can serve as a solution to this problem. Gamification integrates game elements into non-game contexts to make tasks more engaging [4].

Applying gamification in LMS is beneficial because it fosters motivation, promotes active participation, and provides an interactive learning environment. Students are more likely to remain engaged by incorporating game mechanics, improving their learning outcomes[3]. Game elements such as leaderboards, points, achievements, badges, and levels [5] can significantly increase user engagement [6]. Several types of gamification have been shown to support learning within LMS effectively. These include point systems for tracking progress, badges as rewards for completing specific tasks, and leaderboards to encourage healthy competition among students. Challenges and levels can also guide students through their learning journey in a structured and motivating way[5]. However, the gamification approach implemented in this study differs in its focus on combining educational objectives with tailored gamified elements specific to English language learning. Increased student engagement with LMS is directly proportional to a better understanding of the English language, as frequent exposure to English can facilitate improved comprehension [7].

Gamification in Learning Management Systems (LMS) can be implemented through the use of plugins. A plugin is an additional software component that enhances specific functionalities within a system or application [8][9]. By incorporating gamification plugins into an LMS, institutions can encourage regular usage and performance monitoring while reducing the need for labor-intensive manual processes that are prone to errors, such as tracking task completion and submission [8][9].

The design of a gamification plugin is based on the user persona [10]. User personas assist developers in gathering user data and understanding the needs of users within a system. This understanding helps developers identify user characteristics, requirements, and objectives, allowing them to implement gamification features that align with user needs.

During the research process, a trial implementation was conducted with students to validate the findings utilizing established methods and theories. Data collected from the trial was analyzed and interpreted for report writing. The trial employed a non-parametric method [11], which is ideal for this research as it allows for direct testing of the LMS with the gamification plugin across several comparable classes of university students, using pre-treatment and post-treatment assessments.

This study aims to evaluate students' motivation and performance using the LMS with gamification features. The article is structured into five sections: the first section presents the background and objectives of the study; the second section reviews relevant literature; the third section outlines the research methodology used; the fourth section discusses the findings and analysis of the test results; and the final section provides conclusions and recommendations for future research to build on these findings.