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Digital Gamification for Vocabulary Growth: Evaluating Educaplay for EFL Learners in a Boarding School Setting

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ABSTRACT

This study examines the use of Educaplay, a gamified digital platform, to enhance vocabulary acquisition among EFL students at Zubdatul Asrar NU Boarding School in Parepare. Recognizing the limitations of traditional vocabulary instruction, the research explores how interactive, game-based learning can support engagement and retention. A pre-experimental one-group pretest-posttest design was employed with 42 randomly selected students. Vocabulary tests were administered before and after six sessions using Educaplay activities, and a student questionnaire was used to assess learner perceptions. The results showed a significant improvement in vocabulary mastery, with mean scores increasing from 55.71 to 94.48. Questionnaire data revealed high levels of student motivation and satisfaction with the learning process. These findings suggest that digital gamified tools like Educaplay can effectively support vocabulary development in EFL contexts, offering an engaging and inclusive alternative to traditional methods.

Keywords: *Vocabulary, Educaplay, EFL students, Digital learning tools*

INTRODUCTION

Vocabulary is an essential component of language learning, as it forms the basis for speaking, reading, writing and listening skills. Vocabulary provides the foundation for students to understand and use English in various contexts, both spoken and written. Considering the role of vocabulary in supporting communicative competence, Normurodvna (2025) states that vocabulary acquisition is a fundamental component in second language learning, and it requires repeated exposure and active engagement for long-term retention.

According to Wilkins (1972), "without grammar, little can be communicated; without vocabulary, nothing can be communicated." This is relevant in the EFL context, where vocabulary acquisition affects students' ability to understand texts, express ideas, and build effective communication.

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Vocabulary breadth and depth not only improve communication skills, but also affect overall learning outcomes. Vocabulary deficiencies often limit students' abilities in language tests and everyday communication, making vocabulary acquisition an early goal of foreign language learning (Nation, 2001; Schmitt, 2014). Research by Nation (2018) shows that EFL students need around 2,000–3,000 words to understand basic texts, while for academic texts, mastery of up to 8,000 words is required. In the context of learning English as a foreign language (EFL), vocabulary acts as a link to improve students' receptive and productive skills (Teng & Mizumoto, 2023).

Although it is important, many students face challenges in mastering vocabulary. These barriers include difficulties in long-term vocabulary recall, limited exposure to authentic contexts, and lack of effective learning strategies (Teng, 2018). Vocabulary acquisition for Indonesian students in EFL learning faces various obstacles. One of the main factors is the lack of exposure to English in everyday environments, which limits students' opportunities to use and reinforce the vocabulary they learn. In addition, traditional teaching methods that focus on memorization tend to be less effective in motivating students to learn vocabulary deeply (Webb & Nation, 2017). Students also often have problems processing complex word meanings or understanding syntactic and semantic relationships between words (Şen & Kuleli, 2015; Janebi Enayat & Derakhshan, 2021). Another problem is the lack of access to engaging and interactive learning materials and the lack of technological support in some schools. This is exacerbated by students' perception that vocabulary is a difficult component to learn, especially when compared to grammar, thus affecting their motivation to learn (Schmitt, 2019). In traditional learning environments, vocabulary teaching often relies heavily on rote memorization and textbook-based methods, which can disengage learners and fail to address individual learning needs (Webb & Nation, 2017). These challenges include limited exposure to authentic language input, lack of motivation, and ineffective learning strategies (Schmitt, 2019). The integration of mobile and digital technologies in language learning has shown significant potential to enhance student learning outcomes and motivation, especially when interactive and game-based strategies are involved (Xu et al., 2020).

Technological advances have enabled the integration of digital-based media in the learning process, including vocabulary learning. Interactive platforms such as Educaplay support more engaging vocabulary instruction through game-based activities, quizzes, and multimedia exercises. Digital media has been shown to increase student motivation, help organize independent learning, and provide flexible access to learning outside the classroom

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(Xodabande & Atai, 2022). Gamification, defined as the use of game design elements in non-game contexts, has been widely recognized as an effective approach to increase learner engagement and motivation in educational settings (Rivera et al., 2021). Technology-based vocabulary learning can also support academic vocabulary acquisition by increasing student engagement and developing self-regulation skills (Lei et al., 2022). Alghasab et al. (2019) showed that a digital platform incorporating game-based learning elements can increase vocabulary retention by up to 30% compared to traditional methods. Digital tools not only offer interactive and engaging content but also provide personalized learning experiences that cater to diverse learner preferences. Educaplay, a widely recognized platform for creating educational activities, exemplifies how technology can be harnessed to support vocabulary learning. Studies have shown that game-based and interactive platforms enhance student engagement and retention by transforming monotonous learning tasks into enjoyable experiences (Alghasab et al., 2019).

The use of software in foreign language learning has been proven to significantly increase student engagement. Educationists claim that interactive learning software provides a more engaging and contextualized experience than traditional methods. According to Warschauer and Healey (1998), technology offers more personalized learning opportunities and supports students' autonomy, thus increasing their motivation in learning a foreign language. This is in line with the findings of Zou et al. (2021), which showed that students are more likely to be actively engaged when learning using digital technologies such as games, simulations, and app-based activities. The main factor that makes software engaging is the combination of visual, audio, and interactivity elements that support students' various learning styles—whether visual, auditory, or kinesthetic (Stockwell, 2022).

In the context of foreign language learning, interactive software such as game-based learning or mobile learning applications allows students to practice language skills in an enjoyable way. In addition, technology-based software often provides immediate feedback, which, according to Alghasab et al. (2019), can improve learning effectiveness and material retention. Therefore, integrating gamified software into foreign language instruction not only enhances learner interest but also improves the overall efficiency of the learning process.

Integrating Educaplay into vocabulary instruction at Zubdatul Asrar NU Boarding School in Parepare offers a promising solution to long-standing limitations of traditional methods. This study investigates how Educaplay, as a gamified digital learning platform, can be effectively utilized to support

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vocabulary acquisition and learner engagement in an Indonesian EFL context. The study also explores students' perceptions of the tool's usability and motivational impact, contributing to ongoing discussions on technology-enhanced language learning.

METHOD

This research employed a pre-experimental approach, which allows for hypothesis testing aimed at identifying potential cause-and-effect relationships (Creswell, 2018). In this design, the researcher introduces manipulation to a single independent variable to examine its influence on a corresponding dependent variable. This was practiced at Islamic Boarding school zubdatul asrar Nahdlatul ulama kota parepare. The participants of this study consisted of students who demonstrated limited vocabulary proficiency, totaling 98 individuals. A random sampling technique was employed to select the sample, resulting in 42 students being chosen to participate in the research.

Two instruments were utilized to collect the necessary data. The first instrument was a vocabulary test comprising 15 items, adapted from the English Vocabulary Test for Upper-Intermediate Level, which was deemed appropriate for the participants' language proficiency level. This test aimed to measure students' vocabulary achievement following the implementation of discovery learning in the instructional process.

The second instrument was a questionnaire designed to obtain data regarding students' perceptions of the effectiveness of the discovery learning strategy in vocabulary instruction. This questionnaire was initially developed by a researcher from Universitas Kristen Indonesia (Tampubolon, 2018) and subsequently revised to align with the specific context and objectives of the present study.

The data collection procedure was carried out in three stages. The first stage involved administering a pre-test, conducted prior to the implementation of the discovery learning strategy. This assessment aimed to evaluate students' initial vocabulary proficiency. The second stage was the treatment phase, during which the researchers implemented discovery learning in vocabulary instruction over the course of six sessions, each lasting ninety minutes. The final stage was the post-test, administered to assess students' vocabulary improvement following the intervention. In addition to test-based data, the researchers also gathered supporting information through a questionnaire designed to capture students' perceptions of the learning strategy used.

The initial stage of data analysis employed a statistical t-test to examine the differences in students' performance. The analysis was conducted using IBM

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SPSS Statistics software. The outcome of this analysis served as the basis for determining the acceptance or rejection of the null hypothesis. The alternative hypothesis proposed that the application of the discovery learning strategy would lead to a significant improvement in students' English vocabulary achievement. While the null hypothesis is no significant increase in using discovery learning strategies toward students' English achievement. The margin error is at 0.05 level. The IBM SPSS Statistic application analysed the second data from the questionnaire, and it was supplemented by Microsoft Excel to tabulate the data in table percentage and chat form. IBM SPSS statistics as a tool for data During the data processing stage, the analysis included descriptive statistics, a normality test, and a paired samples t-test to interpret the research findings comprehensively.

FINDINGS AND DISCUSSION

A total of 42 students participated in the study. The students' vocabulary knowledge was measured through pre-tests before the intervention and post-tests after six sessions of learning using Educaplay activities. Table 1 summarizes the descriptive statistics of the students' scores.

Table 1. Descriptive Statistics of Pre-test and Post-test Results

No	Statistic	Pre-test	Post-test
1	Mean	55.71	94.48
2	Minimum	40	80
3	Maximum	70	100
4	Standard Deviation	10.16	6.94

The data show a substantial improvement in vocabulary scores after the use of Educaplay. The mean score increased from 55.71 in the pre-test to 94.48 in the post-test. Furthermore, the range of scores shifted positively, with the lowest post-test score (80) being twice as high as the lowest pre-test score (40). The standard deviation decreased from 10.16 to 6.94, indicating that students' performance became more homogeneous after the intervention.

The improvement can be visually observed in Figure 1, which compares the pre-test and post-test scores for each student.

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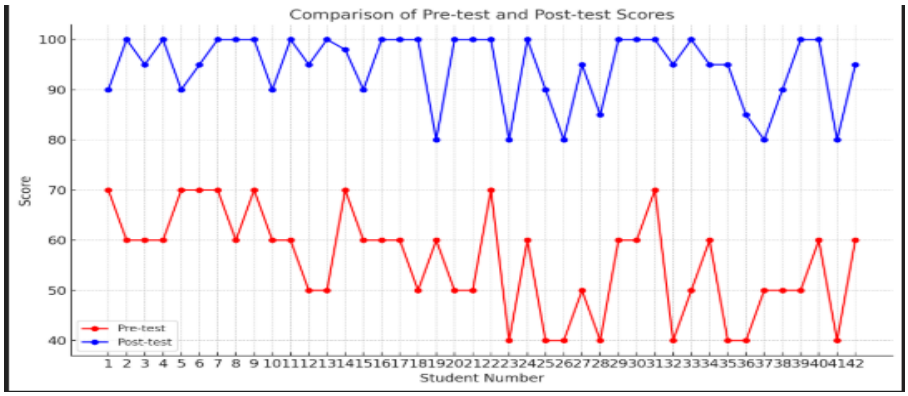

Figure 1. Comparison of Pre-test and Post-test Scores

CONCLUSION

This result aligns with previous studies highlighting the effectiveness of digital and gamified learning platforms in improving vocabulary acquisition. Alghasab et al. (2019) reported a 30% higher vocabulary retention rate among students using digital game-based learning compared to traditional methods. Similarly, Vargas-Saritama and Espinoza-Celi (2024) emphasized that Educaplay enhances vocabulary retention through its interactive and engaging features. The findings also corroborate Xodabande and Atai (2022), who demonstrated that technology-based learning fosters greater learner autonomy and motivation. Students in this study exhibited high enthusiasm and engagement during the sessions, which likely contributed to the significant increase in their scores.

Despite these positive outcomes, this study has several limitations. The research employed a pre-experimental design without a control group, which limits the ability to attribute improvements solely to the use of Educaplay. In addition, the intervention duration was relatively short (six sessions), which might not reflect long-term retention or generalization to other language skills. Future studies should consider a larger sample, longer intervention periods, and comparison with other vocabulary learning strategies to strengthen the validity and generalizability of the findings.

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