BOOSTING VOCABULARY OUTPUT FOR BEGINNER WITH EDUCAPLAY APP AND PBL

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ABSTRACT

Beginners in English face multiple obstacles in their language learning journey. One of the most significant challenges is building a sufficient vocabulary base, which is crucial for comprehension and communication. This research investigates the effect of integrating the Educaplay application with Problem-Based Learning (PBL) to enhance vocabulary output in beginner-level English learners. Conducted at SD Muhammadiyah 3 Parepare with a pre-experimental design (one-group pretest-posttest), the study involved 16 fourth-grade students. Students were given vocabulary instruction through six sessions of Educaplay-based PBL. Findings showed a significant increase in vocabulary output, with the mean score improving from 61.56 (pretest) to 84.69 (posttest). The t-test value (1.91) exceeded the t-table value (1.75), indicating a statistically significant difference. Students also demonstrated a 93% average level of interest based on questionnaire results. . the findings robustly support the effectiveness of integrating the Educaplay application within a Problem-Based Learning model for beginner English students, yielding significant improvements in vocabulary acquisition and fostering a very high level of learning interest This study confirms that Educaplay, when implemented within the PBL framework, effectively enhances vocabulary acquisition and student engagement in English for beginners

Keywords: vocabulary output, Educaplay, PBL, beginner learners, gamification

INTRODUCTION

Mastering vocabulary is a fundamental step for English language learners, particularly at the beginner level. Vocabulary provides the building blocks for learners to develop the four primary language skills: listening, speaking, reading, and writing. In the context of young learners, especially at the elementary school level, vocabulary instruction must be engaging, contextual, and learner-centered to produce meaningful language output(Kacetl & Klímová, 2019). However, conventional vocabulary teaching approaches that rely heavily on memorization and drilling often result in low retention and minimal active language use. In Indonesia, where English is taught as a foreign language, many young learners have limited exposure to English outside the classroom. As a result, vocabulary instruction within the classroom becomes critical in developing students' language proficiency (Stoimcheva-Kolarska, 2020). To make vocabulary learning more effective and motivating, integrating digital tools and student-centered pedagogies is essential.

Vocabulary is the cornerstone of language proficiency and communication. For beginner English learners, mastering vocabulary is essential to build the foundations of the four language skills: listening, speaking, reading, and writing. However, traditional teaching methods often fail to engage students meaningfully or help them retain and apply new words in context. These methods tend to emphasize rote memorization over meaningful use, which is ineffective for long-term retention, especially in primary school learners(Wehbe, 2024). For beginners, acquiring a strong vocabulary is essential for developing reading, writing, speaking, and listening skills. Without sufficient vocabulary, learners struggle to understand texts, express themselves, or engage in meaningful conversations. Research by (Permana, 2020) emphasizes that vocabulary knowledge is a strong predictor of language proficiency and academic success. For English beginners, mastering basic vocabulary is the first step toward achieving fluency and

confidence in the language

In school that the researcher used to teach, particularly in EFL (English as a Foreign Language) contexts, students often struggle to acquire and retain basic English vocabulary. This issue is especially evident among beginners who lack exposure to English outside the classroom. Traditional teaching methods, which rely heavily on rote memorization and textbook-based learning, frequently fail to engage students or support long-term vocabulary retention. As a result, vocabulary output—students' ability to recall and use new words—remains limited (Turekisa, 2021). Furthermore, low student interest in language learning contributes to a lack of motivation and active participation during English lessons. While digital tools and gamified platforms have been increasingly integrated into modern education, their implementation in vocabulary instruction at the elementary level is still limited. There is a clear need to explore innovative and interactive approaches, such as the use of the Educaplay app, to improve vocabulary outputs and stimulate learning interest among beginner learners.

The challenge of teaching vocabulary to beginners is further exacerbated by limited exposure to English outside the classroom. In Indonesia, English is considered a foreign language and is rarely used in daily communication. Thus, learners often lack real-world practice opportunities that reinforce new vocabulary. This study is conducted in the context of a primary school, where English is taught as a second or foreign language. The participants are beginner-level students who are just starting to learn English. The study focuses on the use of Educaplay app as a supplementary tool to enhance traditional teaching methods and improve students' vocabulary output and learning interest. By examining the implementation of Educaplay app in this context, the study aims to provide insights into its effectiveness and potential as a teaching tool for English beginners.

Research by Mukarromah & Agustina (2021) has shown that gamification can improve students' engagement, retention, and performance in language learning. For beginners, gamified activities provide a low-pressure environment where they can practice and reinforce their vocabulary skills without fear of failure. To address these challenges, educators need innovative tools and strategies that make vocabulary learning more accessible, engaging, and effective. Gamification and digital tools like Educaplay offer promising solutions by providing interactive and personalized learning experiences that cater to beginners' unique needs and learning styles. This not only boosts their confidence but also encourages them to take an active role in their learning. Platforms like Educaplay, which offer a variety of gamified vocabulary exercises, are particularly effective in enhancing vocabulary output and fostering learning interest among beginners.

Educaplay is an online platform that allows educators to create and share interactive learning activities, including quizzes, crosswords, word searches, and matching games. Designed to be user-friendly and versatile, Educaplay enables teachers to customize activities to suit their students' needs and learning objectives (Imam et al., 2025). For vocabulary learning, Educaplay offers a range of activities that reinforce word recognition, spelling, and usage in a fun and engaging way. By turning vocabulary practice into a game, Educaplay not only enhances students' vocabulary ability but also fosters their interest and motivation to learn. Research by (Vargas-Saritama & Espinoza Celi, 2024) highlights that gamified platforms like Educaplay can significantly improve students' engagement and performance in language learning. For beginners, Educaplay provides an interactive and supportive environment where they can build their vocabulary skills while enjoying the learning process.

This necessitates an approach that both immerses students in language use and fosters active engagement. Recent advances in educational technology provide innovative solutions to these challenges. Educaplay, a digital gamified platform, allows educators to create interactive and engaging vocabulary tasks. Through activities like word searches, matching games, and quizzes, Educaplay transforms traditional vocabulary learning into a dynamic experience. Furthermore, the integration of Problem-Based Learning (PBL) provides learners with authentic problems to solve, encouraging deeper cognitive engagement and vocabulary use in context.

This study aims to examine the impact of combining Educaplay with PBL on vocabulary output among beginner learners. By focusing on vocabulary as the primary learning outcome, the study seeks to provide empirical evidence of how digital tools and student-centered approaches can enhance vocabulary mastery in elementary-level English language instruction.

LITERATURE REVIEW

2.1 Vocabulary Output

Vocabulary output refers to a learner's ability to produce and use words appropriately in communication, both orally and in writing. It contrasts with vocabulary recognition or passive knowledge, which involves understanding words without necessarily using them. According to (Aşıkcan, 2023), vocabulary output is crucial for fluency and language development. Learners who can use vocabulary actively are more likely to develop communicative competence and confidence in using the language.

For beginners, vocabulary output lays the foundation for language acquisition. Without a sufficient vocabulary base, learners struggle to form meaningful sentences or comprehend texts. Studies (Permana, 2020, Agazzi, 2022, Panfilova et al., 2022) have shown that vocabulary size is a strong predictor of academic achievement and overall language proficiency.

2.2 Challenges in Teaching Vocabulary to Beginner

Teaching vocabulary to elementary learners presents unique challenges. First, their cognitive development is still in early stages, requiring methods that are engaging and concrete. Second, their short attention span demands interactive and multisensory learning activities. Third, students often struggle with remembering new words unless they are exposed to them repeatedly in varied contexts (Moto et al., 2021, Aladelah, 2024).

Providing meaningful contexts for vocabulary learning is also crucial for beginners. Isolated word lists are often ineffective, as students may memorize definitions without understanding how to use the words in context. Teachers should incorporate storytelling, role-playing, and authentic materials to help students see the relevance of new vocabulary items (Sahib, 2019). Finally, assessing vocabulary knowledge in beginners requires creative approaches beyond traditional tests. Using games, picture prompts, and simple sentence completion tasks can provide a more accurate picture of students' understanding.

2.3 Problem-Based Learning (PBL)

PBL is a constructivist, student-centered instructional model that places learners in problem-solving scenarios. In PBL, students are presented with real-life problems and work collaboratively to find solutions, thereby constructing knowledge in the process (Arianti et al., 2024). In the context of language learning, PBL encourages the use of target vocabulary through communication and exploration, rather than passive reception.

PBL fosters critical thinking, learner autonomy, and collaborative learning. It supports vocabulary development by exposing learners to words in meaningful, task-based contexts. According to (Pelajaran & Inggris, n.d.) such contextual learning enhances retention and promotes deeper understanding.

2.4 Gamification and Educaplay

Gamification involves using game design elements in non-game educational settings to increase motivation and engagement (Mukarromah & Agustina, 2021). Educaplay is a web-based tool that allows teachers to create gamified content such as quizzes, crosswords, and interactive dialogues. Research by (Vidimli, 2023) found that Educaplay significantly improved vocabulary retention and learning motivation in English learners. Moreover, gamification promotes social interaction and collaboration. Multi-player games and collaborative tasks encourage learners to communicate and practice their language skills in a supportive environment. This social aspect enhances language fluency and cultural understanding. Additionally, gamification provides opportunities for personalized learning, allowing learners to progress at their own pace and focus on areas where they need improvement.

Educaplay supports personalized learning and provides immediate feedback, both of which are essential for formative assessment. Its visually rich and interactive format aligns with young learners' cognitive preferences and supports vocabulary acquisition through active engagement.

METHOD

This study applied a quantitative pre-experimental design using a one-group pretest-posttest format. The Pre-test and Post-test groups participate in two observation sessions: the Pre-test is conducted before the treatment, and the Post- test is conducted immediately after. This design is considered experimental because there is minimal control over external variables. The one-group pretest-posttest design involves measuring a single group both before and after exposure to the treatment**.** The population consisted of fourth-grade students at SD Muhammadiyah 3 Parepare in the academic year 2024/2025. Sixteen students participated in the research. Data were collected using vocabulary tests.

The instrument that used in this research was an English test namely a multiple-choice test. The total number of the test was 20 items to measure the ability of the students to comprehend. The test will apply as a pre-test, a post-test, and give questionnaires. The pre-test was used to find out the comprehension of the students before giving treatment, the post-test was used to find out the English vocaabulary knowledge after giving treatment, and give questionnaire to measure that the students get excited and happy during the learning.

The research was conducted over six classroom sessions. Each session integrated Educaplay activities with PBL syntaxs such as:

1. Problem Orientation, teacher presents a real-life problem to contextualize vocabulary
2. Learning Organization, teacher groups students and explains goals
3. Exploration / Investigation, students explore vocabulary meanings and usage via games
4. Result / Solution, students create dialogues or sentences using the vocabulary
5. Developing / Presentation, students role-play dialogues and present sentences.
6. Feedback and Reflection, discussion and evaluation of the learning experiences.

FINDINGS AND DISCUSSION

Findings

The researcher observed the full sequence of the learning process implemented across six teaching sessions. These sessions were carefully designed using the Problem-Based Learning (PBL) model and aligned with the daily lesson objectives focused on vocabulary topics such **as** greetings, partings, and action verbs**.** The six-day instructional process implemented in this study integrated the Educaplay application with the Problem-Based Learning (PBL) model to enhance vocabulary learning for beginner English students. On **Day 1**, the focus was on greeting expressions; students watched a video and discussed its context, collaborated in groups, played a word search game on Educaplay, and performed greeting dialogues. **Day 2** introduced parting expressions through a video stimulus, followed by group activities involving matching games and short farewell dialogues. On **Day 3**, greetings and partings were combined; students analyzed a dialogue worksheet, played a dialogue game, wrote complete scripts, and performed them, fostering integration of both expressions. **Day 4** shifted to action verbs, where students interpreted daily activity images, matched verbs to pictures via Educaplay, and created simple sentences, strengthening their vocabulary comprehension and usage. On **Day 5**, the review continued with a crossword puzzle game on Educaplay to reinforce previously learned verbs. Students explained selected verbs in original sentences and shared reflections on their learning progress. Finally, **Day 6** assessed mastery of action verbs; students matched verbs to random images in a quiz format and presented their answers with example sentences, concluding with reflective discussions. Each day followed the six PBL phases: Problem Orientation, Learning Organization, Exploration, Result/Solution, Developing/Presentation, and Feedback/Reflection. The use of Educaplay across all sessions provided interactive, engaging, and visually supported learning experiences. These activities not only enhanced vocabulary output but also promoted collaboration, communication, and learner autonomy, showing that PBL combined with digital tools can effectively support vocabulary development and student interest in primary-level English learning.

Test results were used to determine the study's conclusions in order to address the research questions. the impact of educaplay on vocabulary output was one of the research questions. The purpose of this study was to examine the extent to which the implementation of Educaplay appenhances

vocabulary acquisition among beginner English, as reflected in their vocabulary learning. As shown in the table below, the frequency and percentage of the data were determined using the total score of the five aspects:

1. **The percentage student's score in the pretest**

Table 1. The percentage student's score in the pretest.

Score	Classification	F	%
91 – 100	Excellent	-	-
81 – 90	Very Good	-	-
71 – 80	Good	1	6,25%
61 – 70	Average	10	62,50%
51 – 60	Bad	2	12,50%
1 – 50	Very Bad	3	18,75
Total		16	100%

The pretest results that among the 16 students, the majority were categorized as "Average". Three students with "Very bad", two students with "Bad". One student fell into the "Good" category, while no students achieved a "Very Good" and "Exelent". These results indicate that no student achieved a score above 80**,** which emphasizes the low baseline vocabulary proficiency at the beginning of the study.

2. **The percentage student's score in post-test.**

Table 2. The percentage student's score in post-test.

Score	Classification	F	%
91 – 100	Excellent	3	18,75%
81 – 90	Very Good	8	50%
71 – 80	Good	4	25%
61 – 70	Average	1	6,25%
51 – 60	Bad	-	-
1 – 50	Very Bad	-	-
Total		16	100%

The posttest results that conducted after implementing Educaplay app with problem based learning. eight students achieved a "Very Good" score, four students with "Good" score, three students with "Excellent" score, one with "Average" score while no participants were categorized as "Bad," or "Very Bad." These findings highlight the implementation of Educaplay app in enhancing vocabulary output as most students advanced to the highest level of performance. The shift from a "Average" majority in the pretest to a predominantly "Good" performance post-treatment underscores the students' ability in English has a good impact after being taught by Educaplay app with problem based learning as a method.

3. **The mean score and standar deviation of Pre-Test and Post-Test**

Table 4.3. The mean score and difference score were pre-test and post-test

	Mean Score		
Class	**Pre-test**	**Post-test**	**Gain Score**
IV	61,56	84,69	23,13

Table 3 shows about mean score of pretest and posttest. In the pretest, the mean score obtained by the students was 61,56 while in the posttest was 84,69. The result showed the researcher found an improvement after giving treatment, there was a significant difference of the students before giving treatment and after giving treatment. It indicated that the implementation of Educaplay application with problem based learning has an impact on students' English for beginners. It was proven by the score differences pretest and posttest value. The difference was 23,13 from pretest to posttest.

Table 4. Standard deviation and gain score pre-test and post-test.

Standard Deviation			
Class	**Pretest**	**Postest**	**Gain Score**
IV	12,21	7,41	4,80

Table 4 shows the standard deviation of pretest and posttest. The standard deviation obtained by the students in the pretest was 12,21, while in the posttest was 7,41. However, the standard deviation the Pre-Test is higher than Post-Test. The Pre-Test had a higher value because there was still a lot of variance in learning achievement. After giving some treatment the class had decended value in Post-Test even the class did not decrease significantly, but at least the variance of the students learning achievment had been decreasing after the treatment. The result can be indicated that the treatment on the class was not done maximally. How ever the result shows that the standard deviation score was lower than before giving treatment The gain score of standard deviation in pretest to posttest was 4,80.

4. Hypothesis Testing

In hypothesis testing, the researcher used the t-test formula. The level of significance was $\alpha = 0,05$

Table 4.5. The result of statistical analysis of students.

Types of Test	T-test Value	T-table Value
Pretest and Posttest	1,91	1,75

The previous table shows that the t-test value and the t-table value After applying the t-test of testing hypothesis to know whether or not Educaplay application with problem based learning had an impact on the students in learning English. As the result pretest and posttest that the t-test value (1,91) higher than the t-table value (1,75) It means that the null hypothesis (Ho) was rejected and the alternative hypothesis (H1) was accepted. Therefore, the researcher concludes that the English ability of the Forth Grade Students of SD Muhammadiyah 3 Parepare who implemented by Educaplay application was increased and had a good impact. It can be said that Educaplay application with problem based learning is one of the best way in the English leaming process to have an impact on English for beginners.

Discussion

The present study aimed to investigate the extent to which the implementation of the Educaplay application enhances vocabulary acquisition among beginner English students at SD Muhammadiyah 3 Parepare, as reflected in their vocabulary learning outputs. The findings unequivocally demonstrate a significant positive impact of integrating the Educaplay app within a Problem-Based Learning (PBL) framework on students' vocabulary acquisition. The pretest results revealed that the majority of students scored below the average threshold, indicating limited vocabulary mastery prior to the intervention. This outcome can be attributed to several factors. Firstly, students had minimal exposure to English vocabulary in interactive or meaningful contexts. Most vocabulary instruction they previously received relied on rote memorization, without adequate application in communication-based tasks. Secondly, a lack of engaging media or technology contributed to students' low motivation and retention. In many cases, vocabulary was taught as isolated word lists rather than being embedded in real-life scenarios. Additionally, beginner-level learners, especially at the elementary stage, often struggle with abstract learning unless supported with visual and contextual cues (Aşıkcan, 2023, Imam et al., 2025). Without tools like Educaplay, which offer multisensory and gamified reinforcement, students are more likely to forget words or fail to understand their usage. The limited classroom interaction and passive learning also hindered

vocabulary acquisition, as students were rarely asked to produce or present language in meaningful ways. These findings support the need for more dynamic, student-centered instructional strategies such as Problem-Based Learning (PBL) and digital learning tools, which were introduced during the treatment phase of this study.

This statistical significance definitively confirms that the implementation of the Educaplay application with PBL had a positive and significant impact on the English ability of the fourth-grade students at SD Muhammadiyah 3 Parepare. This finding is consistent with broader research advocating for the effectiveness of digital tools in language education, as interactive and multimodal approaches enhance vocabulary learning. The contextualized and meaningful learning provided by Educaplay activities, as suggested by previous research, directly contributed to improved retention and vocabulary expansion. The findings from this study are in line with previous research that emphasizes the effectiveness of digital gamified tools in enhancing vocabulary learning. For instance, studies by (Mukarromah & Agustina, 2021, Vargas-Saritama & Espinoza Celi, 2024) demonstrated that learners retained more vocabulary and were more motivated when exposed to interactive, game-based applications. Similarly, the integration of PBL in language instruction has been shown to increase student engagement and deeper processing of vocabulary, as learners actively apply words in collaborative, real-world problem-solving contexts. Therefore, the results of this study reinforce the theoretical and empirical support for combining PBL and digital media like Educaplay. Therefore, the study strongly concludes that integrating Educaplay within a PBL framework is an effective strategy for enhancing vocabulary output for beginner English learners.

The findings also reveal that the synergy between Educaplay and PBL was instrumental in sustaining this high level of interest. PBL presented real-life problems that contextualized vocabulary learning, making it relevant and meaningful. Educaplay then provided the engaging digital tools for students to explore and express that learning actively. This combination of relevant content and interactive digital experience proved to be highly motivating, demonstrating how well-designed instructional approaches, leveraging technology, can successfully support the affective and motivational dimensions of language learning. The results strongly support the notion that interactive platforms like Educaplay can significantly boost student interest, leading to more effective and enjoyable learning experiences, particularly for vocabulary acquisition.

KESIMPULAN

This study aimed to investigate the implementation of the Educaplay application within a Problem-Based Learning (PBL) framework to enhance vocabulary acquisition and student learning interest among beginner English students at SD Muhammadiyah 3 Parepare. Based on the analysis of the data collected through pre-tests, post-tests. The implementation the Educaplay application in combination with the Problem-Based Learning (PBL) model significantly improved students' vocabulary output and increased their interest in learning English. n addition, students responded positively to the learning process, as reflected in their questionnaire responses and classroom behavior. The use of Educaplay not only made learning more enjoyable but also facilitated student collaboration, and motivation. These factors contributed to greater vocabulary retention and more confident language use among beginner learners.

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