

**MENGAPLIKASIKAN GAMIFIKASI DALAM PEMBELAJARAN KOSAKATA:
DAMPAK *EDUCANDY* TERHADAP PENGUASAAN KOSAKATA DI KALANGAN
SISWA SEKOLAH MENENGAH ATAS**

**GAMIFYING VOCABULARY LEARNING: THE IMPACT OF *EDUCANDY* ON
VOCABULARY MASTERY AMONG SENIOR HIGH SCHOOL STUDENTS**

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Abstract

This study examines the effect of Educandy, a game-based learning platform, on the vocabulary mastery of 10th-grade students at SMAN 4 Kediri. Using a quantitative pre-experimental design with a single group pre- and post-tests, the researchers measured students' vocabulary proficiency before and after the implementation of Educandy. The results show a significant improvement in students' vocabulary mastery, particularly in pronunciation, word use, and word class. Statistical analysis confirms that Educandy is suitable for use in teaching vocabulary mastery. Therefore, Educandy is considered an effective and appropriate media for vocabulary instruction and is recommended for integration into the classroom learning process. It is also recommended to consider the device used to access Educandy, such as a laptop, tablet, or LCD screen, since the font size was too small on a smartphone. Future research is recommended to involve a larger sample size and a stronger research design and conduct studies focusing on vocabulary aspects that showed limited improvement by adapting the learning materials to specifically target those aspects to further validate these findings.

Keywords: *Educandy, vocabulary mastery, game-based learning, English language teaching.*

Abstrak

Penelitian ini mengkaji pengaruh *Educandy*, sebuah platform pembelajaran berbasis permainan, terhadap penguasaan kosakata siswa kelas X di SMAN 4 Kediri. Dengan menggunakan desain pre-eksperimental kuantitatif yang melibatkan satu kelompok serta tes awal dan tes akhir, para peneliti mengukur kemahiran kosakata siswa sebelum dan sesudah penerapan *Educandy*. Hasil penelitian menunjukkan adanya peningkatan yang signifikan dalam penguasaan kosakata siswa, terutama dalam hal pengucapan, penggunaan kata, dan kelas kata. Analisis statistik menegaskan bahwa *Educandy* cocok digunakan dalam pengajaran penguasaan kosakata. Oleh karena itu, *Educandy* dianggap sebagai media yang efektif dan tepat untuk pengajaran kosakata serta direkomendasikan untuk diintegrasikan ke dalam proses pembelajaran di kelas. Disarankan pula untuk mempertimbangkan perangkat yang digunakan untuk mengakses *Educandy*, seperti laptop, tablet, atau layar LCD, karena ukuran font mungkin terlalu kecil jika menggunakan ponsel pintar. Penelitian selanjutnya disarankan untuk melibatkan ukuran sampel yang lebih besar dan desain penelitian yang lebih kuat, serta melakukan studi yang berfokus pada aspek-aspek kosakata yang menunjukkan peningkatan terbatas dengan menyesuaikan bahan pembelajaran agar secara khusus menargetkan aspek-aspek tersebut guna lebih memvalidasi temuan-temuan ini.

Kata Kunci: *Educandy, penguasaan kosakata, pembelajaran berbasis permainan, pengajaran bahasa Inggris.*

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INTRODUCTION

One of the most important aspects of studying English as a foreign language (EFL) is mastering vocabulary since it helps students comprehend and use language efficiently. According to Nation (2013), vocabulary knowledge is fundamental to language proficiency since it directly influences students' listening, speaking, reading, and writing skills. Similarly, Thornbury (2002) argues that without sufficient vocabulary, learners cannot communicate successfully even when they possess adequate grammatical knowledge.

Although it is important, many students in senior high schools have problems in learning and remembering English vocabulary. Students often find it difficult to retain new vocabulary, to understand the meaning of words in context and to apply vocabulary effectively in communication. These problems are often connected with traditional teaching approaches that tend to emphasize rote learning rather than meaningful involvement with language (Harmer, 2007). Consequently, students are generally less motivated and less engaged in vocabulary learning activities.

Teachers have increasingly incorporated technology into language instruction in order to address these issues. Gamification is one of the most promising strategies. Deterding et al., (2011) define gamification as the application of game-design elements in non-game contexts to enhance user engagement and motivation. In educational settings, gamification has been shown to improve students' participation, learning motivation, and academic achievement (Hamari et al., 2014).

One educational platform that supports gamified learning is *Educandy*. *Educandy* is a web-based application that allows teachers to transform vocabulary lists into various interactive games such as matching pairs, word searches, anagrams, quizzes, and memory games. Through these activities, students can practice vocabulary repeatedly in an enjoyable and engaging environment. According to Aenurrifah et al., (2025) *Educandy* promotes active participation and creates a more enjoyable learning atmosphere, which contributes positively to students' vocabulary acquisition.

Several previous studies have demonstrated the effectiveness of *Educandy* in improving vocabulary mastery. Khoirunnisa et al., (2023) found that students who learned vocabulary through *Educandy* achieved significantly higher vocabulary scores than those who learned through conventional methods. Similarly, Ramadhanti et al., (2024) reported that the implementation of *Educandy* Word Search Games significantly improved students' vocabulary achievement. Furthermore, Salsabila et al., (2024) concluded that *Educandy* was effective in enhancing students' vocabulary acquisition and increasing their motivation to learn English.

However, the usage of *Educandy* in past studies had great results but studies that focused on senior high school pupils were still very restricted. Therefore, this study seeks to explore the effect of using *Educandy* on students' vocabulary mastery in senior high school. It is hoped that the outcomes of this study will contribute to the development of effective and engaging ways to teach vocabulary in EFL classrooms.

RESEARCH METHOD

This study employed a quantitative research approach using a pre-experimental design, specifically the one-group pre-test and post-test design. Quantitative research is appropriate for examining the effect of a treatment on a particular variable through numerical data and statistical analysis (Creswell & Creswell J. D., 2018). The one-group pre-test and post-test design was selected because it allows researchers to measure students' vocabulary mastery before and after the implementation of the treatment and determine whether significant improvement occurs (Donald Ary, Lucy Cheser Jacobs, Christine K. Sorensen Irvine, 2018).

The study was conducted at Senior high school in Kediri during the second semester of the 2025/2026 academic year. The participants consisted of 28 tenth-grade students selected through purposive sampling. The participants were chosen because they represented students who were learning English as a foreign language and had relatively low vocabulary achievement based on their previous English scores.

The research instrument was a vocabulary mastery test administered as both a pre-test and a post-test. The test consisted of 30 multiple-choice items designed to measure students' understanding of word meanings, synonyms, antonyms, and vocabulary usage in context. The test items were developed based on the English curriculum for Grade 10 and adapted from vocabulary indicators proposed by (Thornbury, 2002). Prior to administration, the instrument underwent validity and reliability testing using IBM SPSS Statistics. The validity test was conducted using the Pearson Product-Moment Correlation, while the reliability test was analysed using Cronbach's Alpha. The results indicated that all test items were valid and reliable for measuring students' vocabulary mastery.

In addition to the test instrument, the researcher utilized *Educandy* as the instructional media during the treatment sessions. *Educandy* is a web-based gamification platform that enables teachers to convert vocabulary lists into interactive games such as matching pairs, word searches, anagrams, memory games, and quizzes (Khoirunnisa et al., 2023). The platform was selected because its game-based features promote active learning and repeated exposure to vocabulary items, which are important factors in vocabulary acquisition (Nation, 2013)

Data collection was conducted in four steps. First, the researcher administered a pre-test to measure students' initial comprehension of the language before treatment. Second, the researcher conducted four treatments through vocabulary activities based on *Educandy*. In these sessions, students practiced vocabulary by playing several interactive games prepared by the researcher with the target words from the instructional materials. Third, a post-test was administered to assess students' vocabulary understanding after the treatment sessions using *Educandy*. Finally, pre-test and post-test scores were gathered and readied for statistical analysis.

The data were analysed using IBM SPSS Statistics version 32. Descriptive statistics, including mean scores, standard deviations, minimum scores, and maximum scores, were used to describe students' performance in both tests. Before hypothesis testing, a normality test was conducted using the Shapiro-Wilk test to determine whether the data were normally distributed (Field, 2018). Since the data met the assumption of normality, the hypothesis was tested using a paired-samples t-test to determine whether there was a statistically significant difference between the pre-test and post-test scores. The level of significance was set at 0.05. If the significance value (p-value) is lower than 0.05, the alternative hypothesis (H_1) would be accepted, indicating that *Educandy* had a significant impact on students' vocabulary mastery.

RESULT AND DISCUSSION

This study aimed to investigate the impact of *Educandy* on students' vocabulary mastery at Grade 10 of a senior high school in Kediri. The data were gathered from the pre-test and post-test before and after the introduction of *Educandy*. Data were examined using descriptive statistics, normality testing, paired-sample t-test and effect size analysis. Moreover, the students' accomplishment in numerous aspects of vocabulary such as recognition, spelling, pronunciation, word use, word class, synonym, antonym, and collocation was assessed to find the area to improve after the treatment.

The pre-test was administered before the implementation of *Educandy* to determine the students' initial vocabulary mastery. The test measured eight aspects of vocabulary knowledge, including recognition, spelling, pronunciation, word use, word class, synonyms, antonyms, and collocations.

Table 1. Table Frequency of Pre-Test Scores

Score range	Classification	Frequency	Percentage
86 –100	Excellent	1	3,57%
71 –85	Good	6	21,43%
56–70	Fair	10	35,71%
41–55	Poor	7	25%
≤40	Very Poor	4	14,29%
Total		28	100%

The frequency distribution showed that the students got the scores in this category. It meant that majority of the participants had a restricted language competence before giving the treatment. The analysis of the frequency distribution of the pre-test scores was based on Arikunto (2013) classification of scores. The findings showed that the bulk of the students were in the Fair category with 10 students (35.71%) scoring between 56 and 65. After that was the Poor category, with 7 pupils (25.00%), and the Good category, with 6 students (21.43%). In the other hand, there were 4 students (14.29%) who were categorized as Very Poor and only 1 student (3.57%) got the Excellent rating. These findings indicate that most students possessed a moderate level of vocabulary mastery before the adoption of *Educandy*, whereas only a small percentage demonstrated excellent vocabulary achievement.

Table 2. Table Frequency of Post-Test Scores

Score range	Classification	Frequency	Percentage
86 –100	Excellent	23	82,14%
71 –85	Good	3	10,71%
56–70	Fair	1	3,57%
41–55	Poor	1	3,57%
≤40	Very Poor	0	0%
Total		28	100%

The post-test scores were analyzed using Arikunto's (2018) score classification to determine students' vocabulary mastery after the implementation of *Educandy*. The results indicated a significant improvement over the pre-test. Most of the pupils (82.14%) or 23 students got scores in the Excellent category. Meanwhile, 3 students (10.71%) were in the Good category, 1 student (3.57%)

was in the Fair category and 1 student (3.57%) was in the Poor category. No students were placed in the Very Poor category. The results showed that the use of *Educandy* was considerably effective in improving students' vocabulary mastery and majority of the students reached a high level of vocabulary performance.

The improvement indicates that students performed better after participating in vocabulary learning activities through *Educandy*. The increase in scores suggests that the game-based learning environment successfully enhanced students' vocabulary knowledge and encouraged active participation in the learning process. Furthermore, the findings demonstrate that students were able to improve their understanding of various vocabulary aspects after receiving the treatment.

To determine whether the improvement in students' vocabulary mastery was statistically significant, a paired-sample t-test was conducted. According to (Pallant, 2020), the paired-sample t-test is used to compare two related means and determine whether a significant difference exists between them.

Paired Samples Test									
Pair 1		Paired Differences				t	df	Significance	
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference Lower Upper			One-Sided p	Two-Sided p
Pair 1	PRETEST - POSTTEST	-31.929	18.938	3.579	-39.272 -24.585	-8.921	27	<.001	<.001

Figure 1. Figure of Paired Sample T-Test

A paired-sample t-test was used to evaluate if the improvement shown in figure 1 was statistically significant. The analysis showed that there was a mean difference of -31.929 (SD = 18.938) showing that post-test scores were significantly higher than pre-test levels. The test also yielded a t-value of -8.921 with a significance value of $p < .001$ for 27 degrees of freedom. The value of significance was less than 0.05, hence the null hypothesis (H_0) was rejected and the alternative hypothesis (H_1) was accepted. Thus, it may be stated that *Educandy* had significant effect on students' vocabulary mastery.

The findings of this study suggest that *Educandy* effectively enhances vocabulary learning by creating an engaging and interactive learning environment. Through game-based activities such as matching games, quizzes, and word-search exercises, students were exposed to vocabulary repeatedly in an enjoyable manner. This repeated exposure may have contributed to better vocabulary retention, increased motivation, and greater participation during the learning process. As a result, students demonstrated improved vocabulary performance after receiving the treatment.

These findings are consistent with previous studies on the effectiveness of *Educandy* in vocabulary learning. Aenurrifah et al., (2025) reported that *Educandy* significantly improved students' vocabulary mastery through interactive learning experiences. Similarly, Ramadhanti et al., (2024) found that *Educandy* Word Search Games produced significant gains in students' vocabulary achievement. In addition, Ni'mah & Shofi, (2024) concluded that *Educandy* encouraged active participation and effectively improved vocabulary mastery. The consistency between the present findings and previous studies further supports the effectiveness of *Educandy* as a vocabulary-learning media.

Further investigation of the vocabulary features showed that all aspects improved after the deployment of *Educandy*. The extent of improvement, however, differed by aspect. Pronunciation,

word usage and word class were the areas of biggest development. The biggest gain was in pronunciation, which implies that via repeated encounters with vocabulary items, pupils got more comfortable with English sound patterns and precise pronunciation. Word use was also enhanced greatly, which suggested that students had superior competence in applying vocabulary effectively in sentences and communicative circumstances. Similarly, improvement in word class indicated that students become more adept in distinguishing grammatical categories such as nouns, verbs, adjectives and adverbs.

Recognition, spelling, synonym, antonym and collocation also improved but their benefits are significantly lower than those of pronunciation, word use and word class. These features typically demand richer lexical knowledge, conceptual comprehension and more extensive experience of real language use. However, the general improvement in all parts of vocabulary and the large increase in post-test scores indicate that *Educandy* is a useful tool in improving the students' vocabulary mastery. Its game-based features offer meaningful learning experiences that drive students to actively practice vocabulary and enhance good vocabulary learning outcomes.

CONCLUSION AND SUGGESTION

This study investigated the impact of *Educandy* on students' vocabulary mastery at Grade 10 of senior high school in Kediri. The findings revealed that *Educandy* had a significant positive impact on students' vocabulary mastery, as indicated by the significant difference between the pre-test and post-test scores. Therefore, the research question was answered positively, showing that *Educandy* effectively improved students' vocabulary achievement. Among the vocabulary aspects assessed, the greatest improvements were found in pronunciation, word use, and word class, indicating that *Educandy* helped students develop both vocabulary knowledge and its practical application.

Based on the findings, it is suggested that the English teacher use *Educandy* as an alternative media for teaching vocabulary, because it can provide an interesting learning environment and improve students' vocabulary mastery. If the teacher wants to use *Educandy* for classroom instruction, it is advisable to ask students to bring a laptop or tablet and use an LCD screen, because the font on *Educandy* is too small to be read easily on a cell phone. *Educandy* is also recommended for independent vocabulary practice. It is advised that future research include larger sample sizes, longer treatment periods and stronger research design to further corroborate these findings and to investigate the usefulness of *Educandy* in vocabulary learning. Future researcher are also invited to conduct research on the vocabulary aspects that have not improved much by building learning tools that explicitly address these aspects.

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