



The Effect of Gamified and Interactive Features of the British Council Learn English Website on Students' Vocabulary Acquisition

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Article Info	Abstract
Received: 2026 - 06- 01	<i>The acquisition of vocabulary tends to be a difficult process in Indonesian EFL classrooms, specifically in vocational high schools where conventional instruction often fails to sustain learner engagement. The British Council LearnEnglish website was selected as the instructional medium due to its unique integration of multiple gamified and interactive features — including vocabulary games, image-based matching, and audio pronunciation exercises — within a single freely accessible platform, distinguishing it from single-feature tools. This research examined the effect of the gamified and interactive features of the British Council LearnEnglish website toward the English vocabulary acquisition among tenth-grade students at Vocational High School, Indonesia. The research employed a quasi-experimental pre-test and post-test control group design, consisting of 60 participants equally separated into a experimental group (n = 30) and a control group (n = 30). Vocabulary training was delivered to the experimental group through the British Council LearnEnglish website across four treatment sessions, while conventional training addressing the identical vocabulary topics was provided to the control group. To collect the data, the researcher employed a 40-item multiple-choice vocabulary test. The data were then analyzed using paired-samples t-test, independent-samples t-test, and N-Gain score analysis. Findings showed a statistically meaningful enhancement in the experimental group, $t(29) = -12.412$, $p < .001$, Cohen's $d = 2.27$, and a significant between-group difference, $t(58) = -4.810$, $p < .001$, Cohen's $d = 1.24$. The experimental group succeeded in a moderate N-Gain (.5958), while the control group achieved a low N-Gain (.2313). These findings confirm that the platform's gamified and interactive features substantially and meaningfully enhance students' vocabulary acquisition, contributing empirical evidence on feature-based digital vocabulary</i>
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learning in the underrepresented Indonesian vocational high school context.

1. Introduction

Vocabulary understanding is a crucial element of language ability, specifically in English as a Foreign Language (EFL) setting, as it determines learners' proficiency to comprehend and produce meaningful communication (Nation, 2001; Schmitt, 2008). However, many students still experience difficulties in acquiring sufficient vocabulary as a result of the dominance of conventional pedagogical approaches such as memorization and translation, which often limit students' engagement and meaningful learning experiences.

In Indonesian high schools, this issue remains prevalent, where vocabulary learning tends to be teacher-centered and lacks interactive and engaging activities. Consequently, students often struggle to develop their vocabulary knowledge effectively, indicating the need for more innovative and engaging instructional approaches. Similar conditions were observed at SMK N 2 Purworejo, where tenth grade students demonstrated limited vocabulary mastery and low engagement during English lessons, particularly in vocabulary learning.

This issue is particularly critical for Indonesian vocational school students, who are anticipated to possess practical English skills for their future careers, yet often struggle with engagement when faced with traditional, monotonous rote-learning methods. Considering their professional orientation, these students fundamentally require a more dynamic and stimulating instructional medium that connects theoretical foundations with real world practical application (Klimova, 2019). Accordingly, gamified platforms emerge as a highly suitable solution for this demographic, as they effectively transform repetitive vocabulary drills into goal-oriented tasks that align with the vocational mindset of active and experiential learning (Zainuddin, Chu, Shujahat, & Perera, 2020).

In the realm of digital pedagogy, gamification entails the systematic embedding of game-based features into conventional educational contexts to enhance learning achievements. Conceptually, the effectiveness of gamified vocabulary learning can be understood through the intersection of three interdependent elements: gamification, interactivity, and vocabulary acquisition. Gamification functions as a motivational framework that maintains students' learning engagement through reward systems, competition, and goal-oriented tasks (Sailer & Homner, 2020).

Interactivity, in turn, deepens cognitive engagement by requiring learners to actively process vocabulary through immediate feedback and meaning-negotiation activities, rather than passively receiving information (Chou, Wu, & Huang, 2021). Together, these elements create the conditions necessary for meaningful

vocabulary acquisition by lowering the affective filter and enabling learners to engage in repeated, varied encounters with target lexical items in a low-anxiety environment (Lin, Zheng, & Zhang, 2017). This conceptual intersection provides the theoretical basis for this study and informs the selection of the British Council LearnEnglish website as an instructional medium that integrates all three elements within a single structured platform.

Empirical evidence consistently supports the efficacy of gamified and interactive strategies in EFL vocabulary development. Studies examining gamification in EFL contexts have collectively demonstrated significant improvements in vocabulary outcomes, engagement, and motivation. Zhang & Hasim (2023), in their systematic review, found that gamification consistently contributes to improved learning outcomes through increased engagement and effective feedback mechanisms, while Issue & Kazazo (2023) reported that gamification strategies yield higher vocabulary acquisition compared to traditional methods.

Furthermore, Aprianti, Azzahra, and Ummah (2024) revealed that technology-integrated and gamified approaches significantly improve students' vocabulary acquisition and participation in EFL classrooms, further affirming the practical value of digitally enriched instruction over conventional methods. In the Indonesian context specifically, recent experimental and review-based studies have similarly confirmed that gamified learning environments enhance lexical development through features such as instant feedback, competition, and reward systems, while also creating more interactive and learner-centered vocabulary instruction that addresses the limitations of conventional approaches (Budiarti, Masjid, & Djufri, 2025; Nasir, Susanto, Helvira, & Kharta, 2025; Nurfadilah, Nur, & Affandi, 2025).

Beyond motivation, research has also begun to highlight the role of specific platform features in driving vocabulary gains. Studies employing tools such as Wordwall and interactive digital platforms featuring label drills, matching exercises, and visual quizzes have demonstrated that the specific design of platform activities — not merely their digital nature — plays a decisive role in vocabulary outcomes (Oktarini, Mahardika, & Oktarina, 2025; Puspitasari, Gumelar, & Gaffar, 2025).

At a broader level, systematic reviews on gamified digital learning have further concluded that technological components including interactivity, accessibility, and flexible features, alongside pedagogical components such as emotional involvement and autonomous learning, are crucial factors in vocabulary learning outcomes (Prastiwi & Lestari, 2025; Teymouri, 2024). Taken together, these findings point to a growing scholarly consensus that the effectiveness of digital vocabulary learning is substantially mediated by the specific interactive and structural features embedded within a given platform, rather than gamification alone.

Based on the review above, a gap can be determined between existing studies

and recent research requirements. While previous studies have examined gamification and interactive features across various digital platforms — such as Duolingo and Wordwall — these investigations have largely focused on single-feature tools or the general effectiveness of digital platforms rather than platforms that integrate multiple gamified and interactive elements within a single structured environment.

Furthermore, studies in the Indonesian EFL context have rarely investigated widely accessible platforms that combine gamification, interactive exercises, audio-based vocabulary tasks, and structured content progression simultaneously. The British Council LearnEnglish website, despite offering precisely this combination of features, has received limited empirical attention in Indonesian EFL research. More critically, no study to date has specifically investigated this platform's measurable effect on vocabulary acquisition among Indonesian vocational high school (SMK) students. Therefore, this research attempts to address this gap by examining the effect of the gamified and interactive features of the British Council LearnEnglish website on the vocabulary acquisition of Grade X SMK students.

In response to this gap, this study seeks to examine the effect of gamified and interactive features of the British Council LearnEnglish website on students' vocabulary acquisition. The research addresses the following questions: (1) Do the gamified and interactive features of the British Council LearnEnglish website have a substantial impact on learners' vocabulary acquisition? and (2) What is the magnitude of vocabulary improvement in both the control and experimental groups as measured by the N-Gain score? Accordingly, the purpose of this research is to evaluate the statistical significance and the magnitude of the enhancement in students' vocabulary development through the application of these digital features in an EFL context.

The novelty of this research centers on two main elements. First, unlike previous studies that treat digital learning tools as a general variable, this study employs a feature-based approach — specifically examining the integration of gamification and interactivity as combined instructional elements within a single digital platform. Second, this study situates the investigation within the Indonesian vocational high school (SMK) context, a setting that remains underrepresented in empirical research on digital vocabulary learning despite its distinct curricular characteristics and learner profile.

2. Method

This study employed a pretest-posttest control group design as part of a quasi-experimental research design. This design was considered appropriate for addressing the research question, as it allowed the researcher to examine the effect of the British Council LearnEnglish website's gamified and interactive features on students' vocabulary acquisition by comparing two intact classes without random assignment, which is a common constraint in real educational settings. The

experimental group was taught vocabulary through the gamified and interactive features of the British Council LearnEnglish website, whereas the control group was designated to receive conventional vocabulary learning. These two groups were assessed before and after treatment using the identical vocabulary test instrument.

The study's participants were Grade X students at Vocational High School, Indonesia. Purposive sampling was utilized to determine two classes based on the homogeneity of their prior English achievement scores, ensuring that both classes had comparable baseline vocabulary knowledge before the treatment. One class ($n = 30$) was designated as the experimental group (X Accounting 4), while the other class ($n = 30$) was designated as the control group (X Accounting AKL 3), with a total of 60 participants. Before data collection was conducted, approval was secured from the school administration of Vocational High School, and oral consent was secured from all student participants, who were notified of the research objectives and the voluntary basis of their involvement, and the confidential handling of their data.

To control for teacher effect, instruction for both groups was delivered by a single teacher — the researcher — throughout the entire treatment period. While this approach effectively minimized instructional variability between groups, it is acknowledged that the researcher's twofold role as both educator and investigator introduces the possibility of researcher bias, particularly in terms of differential enthusiasm or attention across the two groups. To mitigate this, the researcher made deliberate efforts to maintain consistent instructional energy, pacing, and interaction quality across both classes throughout all treatment sessions.

A vocabulary test with forty multiple-choice questions served as the study's instrument to measure students' acquisition of target vocabulary related to the topics of Body Parts and Appearance, which were covered during the treatment sessions. The test was conducted as a pre-test and a post-test using identical questions. The validity of the instrument's content was verified through expert judgment by two English Education instructors who evaluated the relevance, clarity, and appropriateness of each item. The reliability of the instrument was measured using Cronbach's Alpha, yielding a coefficient of 0.787, indicating that the instrument was suitable for use in this research.

Data were collected in three sequential stages. First, each group took a pre-test to determine their initial vocabulary level prior to any instructional treatment. Second, the experimental group underwent four treatment sessions, each lasting 90 minutes, during which the researcher facilitated vocabulary learning activities using selected gamified and interactive features of the British Council LearnEnglish website.

These activities included an image-label matching exercise in which students matched visual representations of body parts and appearance vocabulary with their corresponding written labels, followed by audio pronunciation feedback upon

correct matching; a structured vocabulary quiz featuring multiple-choice questions with immediate automated scoring and feedback; and a competitive letter-assembly vocabulary game in which students searched for and combined individual letters to form complete vocabulary items within a time-limited interface.

Meanwhile, conventional methods were used to teach vocabulary to the control group, covering the same vocabulary topics — Body Parts and Appearance — and the same number of sessions as the experimental group. Third, following the completion of the treatment, both groups were administered the post-test using an identical vocabulary test instrument.

IBM SPSS Statistics 31 was employed to analyze the quantitative data collected from the pre-test and post-test. As a preliminary step to hypothesis testing, the Shapiro-Wilk test was used to conduct the normality test and a homogeneity test was conducted utilizing Levene's test to verify that the data satisfied the necessary assumptions for parametric analysis.

A paired-samples t-test was subsequently employed to ascertain whether a statistically significant enhancement in vocabulary scores was evident within the experimental group, whereas an independent-samples t-test was administered to evaluate the comparative post-test performance between the control and experimental groups. A significance level of $p < 0.05$ was adopted for all statistical tests. Furthermore, the N-Gain score was computed to assess the extent of instructional gain in each group using the following formula (Hake, 1999):

$$N\text{-Gain} = \frac{\text{Post-test Score} - \text{Pre-test Score}}{\text{Maximum Score} - \text{Pre-test Score}}$$

(Hake, 1999)

The N-Gain scores were interpreted based on the following criteria: a score above 0.7 indicates high gain, a score ranging between 0.3 and 0.7 indicates moderate gain, whereas a score falling below 0.3 indicates low improvement.

3. Result

This chapter shows the findings of the statistical analysis conducted to address the two research questions of this study. The results are reported sequentially as follows: descriptive statistics, prerequisite tests (normality and homogeneity), paired samples t-test, independent samples t-test, and N-Gain score analysis.

Descriptive Statistics

Table 1. Descriptive statistic of pre-test and post-test scores

Group	N	Minimum	Maximum	M	SD
Pre-test — Control Group	30	40.00	87.00	65.40	13.93
Post-test — Control Group	30	55.00	90.00	74.03	10.30
Pre-test — Experimental Group	30	42.00	92.00	66.50	13.67
Post-test — Experimental Group	30	70.00	100.00	85.63	8.27

As presented in Table 1, both groups demonstrated significant progress in vocabulary mastery from pre-test to post-test, with the experimental group showing a substantially greater gain (19.13 points) compared to the control group (8.63 points). The comparable pre-test means of both groups (difference of 1.10 points) confirm equivalent baseline vocabulary knowledge prior to treatment, while the reduced standard deviations in the post-test indicate that scores became more consistent following the instructional period. To further illustrate the between-group differences, Chart 1 presents a comparison of the mean pre-test and post-test scores across both groups.

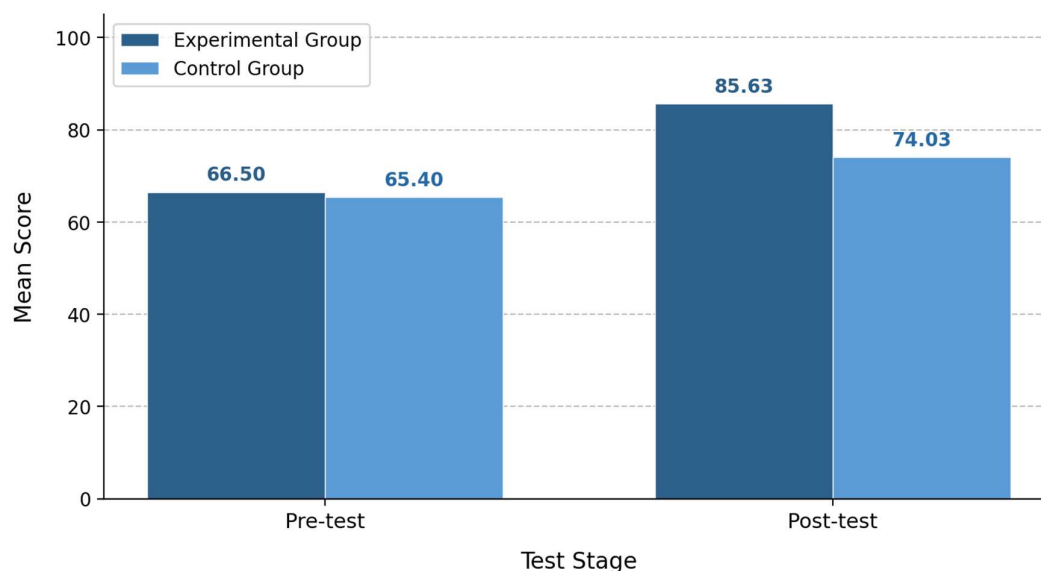


Figure 1. Bar chart comparison of mean pre-test and post-test scores — Experimental vs. Control Group

Normality Test

Table 2. Normality test (Shapiro-Wilk)

Group	Statistic	df	Sig.
Pre-test — Control Group	.952	30	.194
Post-test — Control Group	.957	30	.261
Pre-test — Experimental Group	.969	30	.515

Group	Statistic	df	Sig.
Post-test — Experimental Group	.971	30	.577

As presented in Table 2, The Shapiro-Wilk test results indicate that every significance value was exceeded .05, confirming the normal distribution of the pre-test and post-test data for both groups. These results confirm that the assumption of normality required for parametric analysis was satisfied.

Homogeneity Test

Table 3. Homogeneity test (Levene's Test)

	Levene Statistic	df1	df2	Sig.
Based on Mean	1.589	1	58	.213
Based on Median	1.417	1	58	.239

As presented in Table 3, the significance value based on mean was .213, which exceeded the threshold of .05. This result confirms that both groups' variances were homogeneous. Accordingly, the "equal variances assumed" row was applied in the subsequent independent samples t-test analysis.

Paired sample t-test

To examine whether the experimental group experienced a statistically significant increase in vocabulary mastery, a paired-samples t-test was conducted between the pre-test and post-test results. Tables 4 and 5 provide the descriptive statistics and test findings, respectively.

Table 4. Paired sample statistic — Experimental group

	<i>M</i>	<i>N</i>	<i>SD</i>	<i>SE</i>
Pre-test	66.50	30	13.67	2.50
Post-test	85.63	30	8.27	1.51

Table 5. Paired sample t-test results — Experimental group

Mean Diff.	<i>SD</i>	<i>SE</i>	95% CI Lower	95% CI Upper	<i>t</i>	df	p (two-tailed)	Cohen's <i>d</i>
-19.13	8.44	1.54	-22.29	-15.98	-12.412	29	<.001	2.27

As presented in Tables 4 and 5, the experimental group demonstrated a statistically substantial gain from pre-test to post-test, $t(29) = -12.412$, $p < .001$. The 95% confidence interval fell entirely below zero, confirming that post-test scores were consistently higher across all participants. The strong pre-test to post-test correlation ($r = .814$, $p < .001$) and large effect size (Cohen's $d = 2.27$) indicate that the experimental group's students showed a statistically significant and

practically substantial enhancement in vocabulary acquisition following the treatment using the British Council LearnEnglish website.

Independent Sample t-test

Table 6. Group statistic — Post-test scores

Group	N	M	SD	SE
Control Group	30	74.03	10.30	1.88
Experimental Group	30	85.63	8.27	1.51

Table 7. Independent-sample t-test result — Post-test scores

	t	df	p (two-tailed)	Mean Diff.	95% CI Lower	95% CI Upper	Cohen's d
Equal variances assumed	-4.810	58	< .001	-11.60	-16.43	-6.77	1.24

As shown in Tables 6 and 7, the experimental group demonstrated substantially higher post-test scores than the control group, $t(58) = -4.810$, $p < .001$, with a mean difference of 11.60 points. The 95% confidence interval fell entirely below zero, consistently favoring the experimental group. The large effect size (Cohen's $d = 1.24$) indicates that the advantage of the website-based instruction was both statistically substantial and practically relevant, demonstrating the superiority of the gamified and interactive approach over conventional vocabulary instruction.

N-Gain Score Analysis

Table 8. N-Gain score — Experimental and control groups

Group	N	Minimum	Maximum	M	SD	M (%)	Category
Experimental Group	30	.13	1.00	.5958	.21	59.58%	Moderate
Control Group	30	.00	.53	.2313	.15	23.13%	Low

As presented in Table 8, the experimental group achieved a moderate N-Gain ($M = .5958$), while the control group obtained a low N-Gain ($M = .2313$), yielding a gap of .3645 between the two groups (Hake, 1999). The experimental group's maximum N-Gain of 1.00, compared to the control group's maximum of only .53, further indicates that website-based instruction enabled greater individual achievement potential. These findings collectively confirm that the gamified and interactive features of the British Council LearnEnglish website contributed to a

meaningfully greater magnitude of vocabulary improvement compared to conventional instruction. Figure 2 presents a visual analysis of the N-Gain scores across both groups.

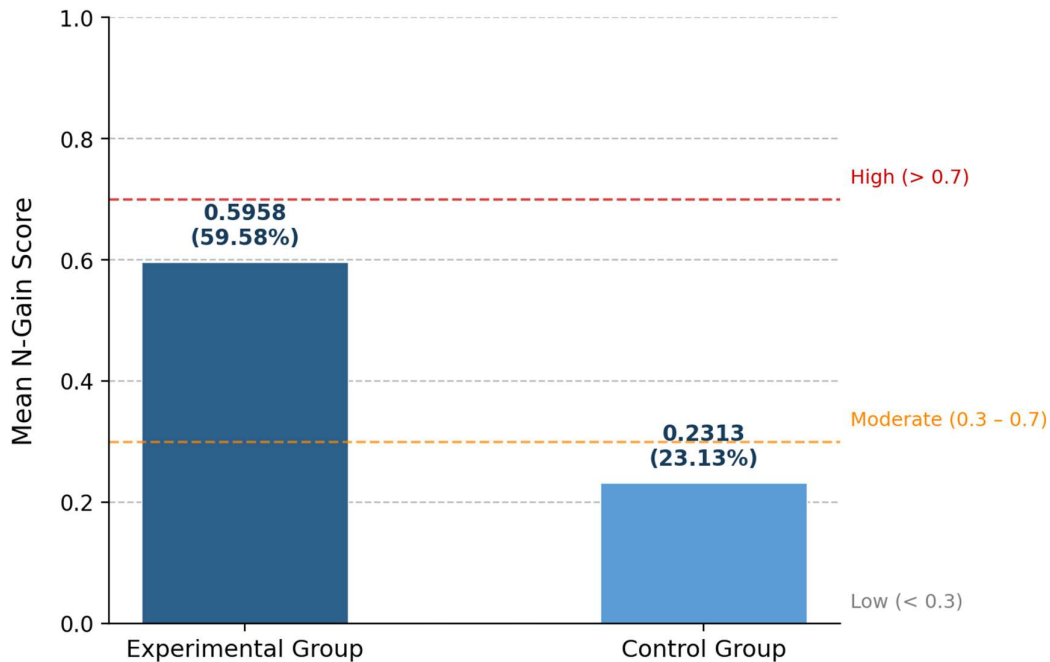


Figure 2. Bar chart comparison of mean N-Gain scores — Experimental vs. Control Group

4. Discussion

The findings of this study offer convincing empirical support that the gamified and interactive features of the British Council LearnEnglish website exert a significant and practically meaningful effect on the vocabulary acquisition of tenth-grade students enrolled at Vocational High School. The paired-samples t-test revealed a statistically meaningful enhancement in vocabulary learning outcomes among the experimental group, rising from the pre-test ($M = 66.50$) to the post-test ($M = 85.63$), $t(29) = -12.412$, $p < .001$, supported by a large effect size as indicated by Cohen's $d = 2.27$. This finding confirms that the British Council LearnEnglish website was highly effective in facilitating vocabulary acquisition among vocational high school students.

This outcome can be theoretically explained through Krashen's (1982) theory suggesting that optimal language acquisition occurs when learners are in a positive emotional state, characterized by reduced anxiety levels and heightened motivational drive. During treatment sessions, students demonstrated noticeably higher enthusiasm when engaging with the website's vocabulary matching feature — in which they matched images with labels and received immediate audio

feedback — compared to their engagement during conventional instruction.

This immediate audiovisual feedback lowered the affective filter by transforming vocabulary practice into an engaging, self-paced activity (Krashen, 1982; Sailer & Homner, 2020). Vygotsky's (1978) theoretical notion of the Zone of Proximal Development (ZPD) further explains this effectiveness: the platform's interactive exercises functioned as digital scaffolds, guiding students through progressively challenging tasks with instant corrective feedback, enabling them to reach competence levels unachievable independently. The strong pre-test to post-test correlation ($r = .814, p < .001$) supports this, reflecting the platform's capacity to build progressively upon students' prior lexical knowledge.

Additionally, Nation's (2001) vocabulary learning framework supports the finding, as the website's combination of image-word matching, pronunciation practice, and vocabulary games provided the multiple, varied encounters with target items that deep lexical encoding requires. These theoretical explanations are corroborated empirically by recent studies demonstrating that digital game-based learning produces significantly higher vocabulary achievement ($p < .001$) alongside reduced learning anxiety (Impram, 2025), and that gamification consistently enhances vocabulary acquisition through features promoting active engagement and repeated lexical encounters (Laksanasut, 2025).

The efficacy of gamified digital tools in promoting vocabulary acquisition is further corroborated by comparable studies employing other platforms. Liu, Chen, and Huang (2025) found that Quizizz's game elements — including instant feedback, leaderboards, and competitive features — consistently supported vocabulary engagement and retention, while Warman (2020) similarly reported significant vocabulary gains among EFL university students using Duolingo, with the experimental group's post-test mean ($M = 76.66$) considerably surpassing that of the control group ($M = 67.55$).

Although both studies confirm the general effectiveness of gamified platforms, what distinguishes the British Council LearnEnglish website from these single-feature tools is its simultaneous integration of multiple complementary modalities — image-based vocabulary matching, audio pronunciation feedback, structured interactive quizzes, and competitive word-assembly games — all within a single freely accessible and institutionally neutral platform. This multimodal integration, rather than any isolated gamified element, is likely the key mechanism behind the comparatively larger between-group difference of 11.60 points ($t(58) = -4.810, p < .001$, Cohen's $d = 1.24$) observed in the present study, suggesting that platform comprehensiveness may serve as a more reliable predictor of vocabulary gains than gamification alone.

Moving to the between-group comparison, this finding is further supported by the contrast with Sadeghi, Sağlık, Mede, and Samur (2022), who found that while game-based learning effectively influenced EFL students' motivation, no considerable vocabulary disparity was observed across gamified and non-gamified

groups. This contrasting finding underscores the critical role of platform design: rather than relying on isolated gamification elements, the British Council LearnEnglish website integrates multiple complementary features within a single structured environment, likely producing deeper cognitive processing that single-feature tools may not consistently achieve (Luo, 2023). The theoretical foundation of Self-Determination Theory introduced by Deci & Ryan (1985) additionally explains the experimental group's superior outcome, as the website's vocabulary game — in which students independently assembled letters to form words in spontaneous peer competition — fulfilled learners' needs for autonomy and competence, sustaining intrinsic motivation throughout the sessions.

Classroom observations confirmed that both groups were comparably active and attentive, allowing the between-group difference to be more confidently attributed to the instructional medium rather than to student disposition. This finding aligns with Syafutra, Bahing, Retsi, Ristati, and Fikri (2023), who found that the British Council website effectively expanded the English vocabulary of tenth-grade students through images and audio related to the topic, while the present study strengthens this evidence through a more rigorous quasi-experimental design with explicit control group comparison.

Qualitative evidence provides additional context for the experimental group's quantitative gains that speaks directly to the learner experience on the British Council LearnEnglish platform. Sihombing & Ismahani (2025) conducted a qualitative descriptive study investigating junior high school students' perceptions of the British Council LearnEnglish website as an online tool for enhancing vocabulary knowledge, finding that students regarded the platform as helpful, efficient, and engaging for vocabulary learning, particularly due to its game-based activities, meaning-rich learning materials, and multimedia components; the study further noted, however, that students identified certain drawbacks such as the lack of oral production activities and the monotonous structure of certain exercise types.

These perception-based results are consistent with the classroom observations made during the present study, in which the experimental group's students showed heightened enthusiasm and rapid adaptability to the platform's interface despite having no prior experience with it. The positive learner perceptions documented by Sihombing & Ismahani (2025) lend qualitative support to the quantitative outcomes of the present study, suggesting that the platform's effectiveness is not incidental but is grounded in its capacity to engage learners through well-designed, multimodal features that are perceived as both accessible and meaningful for education.

The N-Gain analysis further reinforces these findings by quantifying the magnitude of improvement. The experimental group attained a mean N-Gain of .5958 (59.58%, moderate), while the control group obtained .2313 (23.13%, low), yielding a gap of .3645 that reflects substantially greater learning efficiency in the experimental group (Hake, 1998). The moderate rather than high N-Gain

within the experimental group may be explained in part to the brief four-session instructional period duration and intermittent internet connectivity at the school, which occasionally delayed transitions between platform features and prevented full completion of all available exercises.

Despite this contextual constraint, the platform produced a large statistical effect, suggesting that even partial engagement with a well-designed multimodal platform yields substantial gains — outcomes that might be strengthened further under more stable network conditions. The control group's low N-Gain and maximum score of only .53, compared to the experimental group's maximum of 1.00, is consistent with systematic reviews indicating that technology-assisted vocabulary learning, particularly through platforms featuring interactivity and immediate feedback, supports more effective retention and deeper lexical processing than traditional instruction (Nation, 2001; Nawaz et al., 2025; Simonnet et al., 2025).

These findings carry meaningful implications for EFL vocabulary instruction in Indonesian vocational high schools. The British Council LearnEnglish website is a freely accessible resource that teachers can integrate without significant financial investment, and the large effect sizes observed across both tests demonstrate that even brief, structured integration of its features can yield significant vocabulary gains.

In terms of practical application, instructors are recommended to integrate the platform's image-label matching and audio pronunciation features during the vocabulary introduction stage of a lesson, and to use the competitive vocabulary games as a consolidation or review activity that fosters peer interaction and learner autonomy. Teachers should also consider pre-teaching basic digital navigation to students who are unfamiliar with online learning platforms, as this can minimize early session disruptions and allow students to focus their cognitive resources on vocabulary acquisition.

As Panmei & Waluyo (2023) noted, platforms combining gamification with structured vocabulary practice support both lexical development and learner autonomy — outcomes particularly relevant in vocational education. Nonetheless, certain limitations warrant critical consideration. Beyond the logistical constraints of the four-session treatment period, single-school sample ($n = 60$), and intermittent internet access, three additional factors merit acknowledgment. First, the novelty influence of technology-based learning may have accounted for the experimental group's heightened enthusiasm and performance, as students' initial excitement about using a digital platform for the first time could have temporarily inflated motivation independent of the platform's instructional features.

Second, students' varying levels of digital literacy may have influenced their engagement with the platform, as those less familiar with navigating online tools may have directed cognitive resources toward platform operation rather than vocabulary learning itself. Third, the limited timeframe of the intervention restricts

conclusions concerning long-term vocabulary acquisition, as gains observed immediately following treatment may diminish without continued exposure. Future research is recommended to extend treatment duration, utilize larger and more varied participant samples, incorporate productive vocabulary measures or delayed post-tests, and conduct studies under more stable technological conditions to provide a fuller account of the platform's long-term instructional value.

5. Conclusion

This research presents empirical evidence that the game-based and interactive features of the British Council LearnEnglish website significantly enhance vocabulary acquisition among Grade X students at Vocational High School. The paired-samples t-test confirmed a meaningful and substantial and practically large enhancement within the group receiving treatment after completing four treatment sessions, $t(29) = -12.412$, $p < .001$, Cohen's $d = 2.27$, addressing the first research question affirmatively.

The independent-samples t-test additionally demonstrated that the experimental group attained considerably higher scores than the control group on post-test scores, $t(58) = -4.810$, $p < .001$, Cohen's $d = 1.24$, confirming the platform's superiority over conventional instruction. Addressing the subsequent inquiry of this research, the N-Gain analysis demonstrated that the experimental group obtained moderate improvement ($M = .5958$, 59.58%), while the control group achieved only low improvement ($M = .2313$, 23.13%), reflecting a gap of .3645 in learning efficiency between the two groups.

Taken together, these findings demonstrate that the integration of a freely accessible, multimodal digital platform featuring gamification and interactivity can produce significant and meaningful vocabulary gains in the Indonesian vocational high school context, even within a brief instructional period. This study provides a contribution to the expanding corpus of research and literature on feature-based digital vocabulary instruction by providing empirical evidence specifically situated in the SMK context — a setting that has received limited scholarly attention — and by demonstrating that the British Council LearnEnglish website constitutes an effective and accessible instructional resource for EFL vocabulary development.

However, it is important to recognize that this study has a number of limitations. The treatment period was limited to four sessions, which while sufficient to produce significant effects, may not ensure long-term vocabulary retention. This research was carried out in one vocational high school with a considerably limited number of 60 participants, which might restrict the extent to which the results can be applied to broader educational contexts with different learner profiles or technological infrastructure.

Additionally, intermittent internet connectivity during treatment sessions prevented full utilization of all available platform features, potentially limiting the

magnitude of the intervention's effect. Future research is recommended to extend treatment duration to a minimum of six to eight sessions and incorporate delayed post-tests to assess retention over time. Researchers are also encouraged to employ wider and more varied participant populations spanning various regions or educational institutions to strengthen the transferability of results. Furthermore, future studies may benefit from incorporating productive vocabulary measures and qualitative instruments such as student interviews or observation to yield a more thorough and holistic insight into learners' experiences and the specific platform features that most effectively support vocabulary acquisition in vocational EFL contexts.

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