

The Effect of Canva Application on Vocational Students' English Vocabulary Mastery

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*Aulia Purwaningtias Dandela, Mukrim, Mashuri^{abc} 

¹²³Universitas Tadulako, Indonesia

Corresponding Author: aulia.purwanimgtias@gmail.com

ABSTRACT

Vocabulary mastery is essential for vocational students' communication and workplace readiness, yet tenth-grade students may experience difficulties in using descriptive adjectives to describe people in English. This study examined the effect of Canva-based instruction on the vocabulary mastery of tenth-grade Visual Communication Design students at SMK Negeri 5 Palu. A pre-experimental one-group pretest-posttest design was employed with 17 students who completed a 20-item vocabulary test before and after a Canva-based instructional session involving descriptive poster design. The data were analyzed using descriptive statistics, the Shapiro-Wilk normality test, N-Gain analysis, and a paired-samples t-test using SPSS 21. The results showed an increase in the mean vocabulary score from 9.59 in the pretest to 15.24 in the posttest. The paired-samples t-test indicated a statistically significant difference between the scores, $t(16) = -6.197$, $p < .001$, while the N-Gain score of 0.535 indicated a medium level of improvement. These findings suggest that Canva-based instruction can support vocabulary learning by integrating visual design and language practice in a vocational EFL classroom. The study highlights the potential of visually oriented digital media to provide engaging vocabulary-learning experiences for vocational students.

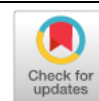
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INTRODUCTION

Vocabulary is a fundamental component of English language learning and plays an important role in students' ability to communicate effectively. In vocational education, vocabulary connects classroom learning with professional communication and workplace practices. For students in creative fields such as visual communication design, English vocabulary is particularly relevant for understanding global learning resources, navigating software interfaces, and communicating within increasingly internationalized creative industries (Apsari et al., 2022). Thus, vocabulary competence represents not only an academic requirement but also a relevant component of vocational students' preparation for further study and employment. This need is particularly important in Indonesia, where vocational high school graduates continue to face challenges in the labor market. Data from the 2025 National Labor Force Survey Sakernas (2025) indicate that vocational high school graduates recorded the highest open unemployment rate among educational groups, highlighting the broader need to strengthen competencies that are relevant to workplace demands. Within this context, developing functional English vocabulary may contribute to students' readiness to engage with professional communication and resources.

An interview with the English teacher at SMK Negeri 5 Palu indicated that many tenth-grade Visual Communication Design students experienced difficulties describing people in English, particularly when using adjectives related to physical appearance and personality traits. Classroom instruction relied largely on vocabulary memorization, while opportunities to use English communicatively were limited by the relatively infrequent English lessons. Such conditions may make it difficult for students to retain vocabulary when words are learned

without sufficient contextual support. Research on L2 vocabulary learning has shown that vocabulary development can benefit from learning conditions that require learners to encounter and process words beyond simple repetition. For example, [van den Broek et al. \(2022\)](#) found that contextualized exposure through reading could strengthen the retention of newly learned foreign words, although the benefits depended on the type of context and learners' ability to retrieve word meanings. Therefore, the difficulty observed among the students may involve not only knowing individual words but also having sufficient opportunities to encounter, recall, and use descriptive vocabulary meaningfully.

The use of visual and multimodal resources provides one possible approach to addressing this issue. Vocabulary can be supported through the integration of verbal information with visual representations, allowing learners to establish connections between word forms and meanings. [Lee & Lim \(2021\)](#), for instance, found that English vocabulary instruction incorporating images and context produced vocabulary gains among Korean high school learners and was also associated with positive changes in interest, motivation, and self-confidence. Similarly, [Yu & Liu \(2022\)](#) reported that multimodal vocabulary learning involving pictures, written words, audio, and L1 translations supported English word-meaning acquisition, with picture-first presentation producing stronger learning outcomes than text-first presentation in their study. These findings suggest that visual information can provide useful support when learners are developing connections between unfamiliar English vocabulary and its meanings, particularly when vocabulary is presented through more than one mode of representation.

Within this context, Canva offers a practical digital environment for integrating vocabulary with visual and written information. As a web-based graphic design platform, Canva enables learners to combine words, images, colors, layouts, and other visual elements while producing posters, infographics, flashcards, and related design products. Previous research has specifically examined Canva in vocabulary instruction. [Widiarti et al. \(2024\)](#), for example, investigated Canva-based flashcards among seventh-grade students and reported higher post-test scores in the experimental group than in the control group. [Febriyanti & Haryanto \(2024\)](#) likewise examined Canva in English learning among vocational high school students and reported its use as a medium for supporting vocabulary learning. These studies provide empirical support for considering Canva as a vocabulary-learning medium, although their participants, instructional designs, and learning contexts differ from the present study. Consequently, Canva should be understood as a medium that facilitates particular learning activities rather than as an independent mechanism that necessarily produces vocabulary improvement.

For tenth-grade Visual Communication Design students, the relevance of Canva also lies in its connection with their vocational field. Instead of encountering descriptive vocabulary exclusively through memorization exercises, students can select images of people, identify appropriate adjectives, construct short descriptions, arrange textual and visual elements, and present their finished designs. Such activities provide opportunities for repeated exposure, retrieval, and contextualized use of target vocabulary. Retrieval is particularly relevant because research has demonstrated that actively recalling newly learned words can strengthen vocabulary learning and retention compared with repeated study alone ([Li, 2022](#)). At the same time, research on multimedia vocabulary learning indicates that combining verbal and visual information can support vocabulary acquisition, particularly when multiple representational modes are meaningfully integrated ([Zhang, 2022](#)). Thus, the present study positions Canva not as the direct source of vocabulary improvement, but as a technological medium for creating active, visually supported, and contextually relevant vocabulary-learning activities. Based on this rationale, the study investigates whether Canva-based instruction is associated with changes in the English vocabulary mastery of tenth-grade Visual Communication Design students at SMK Negeri 5 Palu.

Previous Studies

Several studies support Canva's effectiveness in vocabulary teaching. [Suparman & Ridwan \(2026\)](#) found that junior high school students taught with Canva-based media achieved a significantly higher post-test mean (83.14) than a control group (74.36), with highly positive perceptions of the medium. [Yunianti & Adi Purwanto \(2024\)](#) used classroom action research at a senior high school and reported that Canva-based graphic design improved vocabulary retention and engagement. [BAHAR Reg \(n.d.\)](#) found that the percentage of elementary students reaching good-to-excellent vocabulary categories rose from 6% to 80% after Canva-based instruction. These studies consistently link Canva to improved vocabulary outcomes, but they were conducted in general elementary and secondary contexts and examined broad or ecological vocabulary. The present study addresses this gap by focusing on vocational Visual Communication Design (VCD) students, a population whose relationship with digital design tools has not previously been examined, and narrows the vocabulary scope to descriptive adjectives directly relevant to describing people in professional and creative contexts.

Theoretical Framework

This study draws on two complementary theories. [Nation \(2001\)](#) Vocabulary Acquisition Theory holds that vocabulary mastery develops gradually through three cognitive processes: noticing a word's form and meaning, retrieving it from memory, and generatively using it in a new context, with generative use producing the deepest retention. [Mayer \(2002\)](#) Cognitive Theory of Multimedia Learning explains why a tool like Canva supports this process: learners process verbal and visual information through separate, capacity-limited channels, and meaningful learning occurs when they actively select, organize, and integrate information from both. Because Canva lets students pair written adjectives with corresponding images in a single poster, it engages both channels simultaneously, strengthening the referential connection between a word and its meaning and supporting the noticing, retrieval, and generative-use stages identified by Nation.

This study therefore investigated the effect of using the Canva application on the English vocabulary mastery of tenth-grade Visual Communication Design students at SMK Negeri 5 Palu. It was hypothesized that there is a significant influence of using the Canva application on the English vocabulary mastery of these students (H_1).

METHOD

This study employed a quantitative approach with a pre-experimental one-group pretest-posttest design to examine changes in students' vocabulary mastery following Canva-based instruction. The design was selected because only one intact class was available for the intervention and the study was intended as an initial investigation of vocabulary learning through Canva in a vocational EFL classroom. The research design is represented as O_1-X-O_2 , where O_1 represents the pretest administered before the intervention, X represents the Canva-based vocabulary instruction, and O_2 represents the posttest administered after the intervention. The design enabled the researchers to compare students' vocabulary scores before and after the instructional treatment, although the absence of a control group limits the extent to which changes can be attributed exclusively to the intervention (Sugiyono, 2019).

Respondents

The population consisted of 87 tenth-grade students enrolled in four study programs at SMK Negeri 5 Palu during the 2025/2026 academic year. The participants were 17 tenth-grade students from the Visual Communication Design (VCD) program who constituted one intact class. The students were selected using purposive sampling because the VCD program was directly relevant to the Canva-based instructional intervention, which required students to engage in visual design activities while learning English vocabulary. The participants were therefore considered appropriate for examining the use of Canva as a visual learning medium.

in a vocational EFL context. The sample represented the entire available VCD class involved in the study.

Instruments

The main instrument was a 20-item vocabulary test combining 10 contextualized multiple-choice items and 10 fill-in-the-blank items embedded in descriptive texts, covering adjectives for physical appearance and personality traits that had already been taught to students. The multiple-choice items assessed understanding of word meaning and usage in an objective, guess-resistant format, while the fill-in-the-blank items, drawn from a controlled word bank, measured productive vocabulary knowledge. Using previously taught material followed the principle of content validity (Arikunto, 2014; Lund & Winke, 2008), ensuring that the pre-test and post-test measured students' vocabulary mastery rather than unfamiliar content.

Procedures

Data were collected in three stages: pre-test, treatment, and post-test. The pre-test measured students' initial vocabulary mastery before any treatment. The treatment was conducted in a single session combining explicit vocabulary instruction with hands-on Canva practice: the teacher presented target adjectives through Canva-made visual slides and the 'to be + adjective' sentence structure, demonstrated how to create a descriptive poster in Canva, and then had students independently design a poster describing a person of their choice using at least six target adjectives (three for physical appearance, three for personality traits), followed by peer presentation and feedback. A single treatment session was considered methodologically appropriate for an initial evaluation of this kind of intervention (Babbie, 2013; Cohen et al., 2007). The post-test, identical in format to the pre-test, was administered after the treatment to measure vocabulary improvement.

Data Analysis

Data were analyzed in SPSS Version 21 through four steps. First, descriptive statistics (mean, minimum, maximum, standard deviation) summarized pre-test and post-test performance. Second, the Shapiro-Wilk test, appropriate for a small sample ($N < 50$), checked whether scores were normally distributed (Sig. > 0.05 indicating normal distribution). Third, the normalized gain (N-Gain) was calculated as $N\text{-Gain} = (\text{post-test score} - \text{pre-test score}) / (\text{maximum possible score} - \text{pre-test score})$ and categorized as high ($g \geq 0.7$), medium ($0.3 \leq g < 0.7$), or low ($g < 0.3$). Fourth, because the data were normally distributed, a paired-samples t-test compared pre-test and post-test scores at a 0.05 significance level, testing the null hypothesis (H_0 : no significant difference) against the alternative hypothesis (H_a : a significant difference).

FINDINGS AND DISCUSSION

Pre-test and Post-test Scores

The 17 tenth-grade VCD students who participated in this study obtained a total pre-test score of 163 (mean = 9.59) before the Canva-based treatment. After the treatment, the total post-test score rose to 259 (mean = 15.24). Sixteen of the seventeen students improved, with gains ranging from 1 to 12 points, while one student obtained the same score on both tests, indicating that the improvement was broad-based rather than driven by a few individuals.

Descriptive Statistics

Table 1 presents the descriptive statistics for both tests. The pre-test scores ranged from 5 to 17 ($M = 9.59$, $SD = 3.22$), while the post-test scores ranged from 7 to 20 ($M = 15.24$, $SD = 3.82$). The mean increase of 5.65 points, alongside the slightly larger post-test standard deviation, indicates a clear descriptive improvement in vocabulary performance following the Canva-based treatment.

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

	N	Minimum	Maximum	Mean	Std. Deviation
Pre-test	17	5	17	9.59	3.22
Post-test	17	7	20	15.24	3.82

Normality Test

The Shapiro-Wilk test (Table 2) produced a statistic of 0.933 (Sig. = 0.240) for the pre-test and 0.912 (Sig. = 0.109) for the post-test. Because both significance values exceeded 0.05, the scores were considered normally distributed, supporting the use of a parametric paired-samples t-test.

Table 2. Shapiro-Wilk Normality Test

	Statistic	df	Sig.
Pre-test	0.933	17	0.240
Post-test	0.912	17	0.109

N-Gain Analysis

The mean N-Gain score was 0.535 (53.47%), falling into the medium-improvement category. Individually, five students reached the high-gain category, eight the medium category, and four the low category, a spread that is reasonable given that the treatment involved only a single session rather than repeated exposure.

Paired-Samples t-test

The paired-samples t-test (Table 3) yielded a mean difference of -5.65 (pre-test minus post-test), SD = 3.76, SE = 0.91, with a 95% confidence interval of -7.58 to -3.72. The t-value was -6.197 (df = 16, two-tailed $p < .001$), below the 0.05 significance threshold. The null hypothesis (H_0) was therefore rejected and the alternative hypothesis (H_a) accepted: there was a statistically significant difference between students' vocabulary scores before and after the Canva-based treatment.

Table 3. Paired-Samples t-test Results

Mean Diff.	SD	SE	95% CI Lower	95% CI Upper	t	df	Sig. (2-tailed)
-5.65	3.76	0.91	-7.58	-3.72	-6.197	16	<.001

Discussion

These findings indicate that Canva, used as a digital design-based learning medium, produced a statistically significant improvement in students' English vocabulary mastery. Nation (2001) explains this outcome as the product of repeated, meaningful engagement with a word's form, meaning, and use, while Mayer (2002) explains why the visual, design-based tasks in Canva supported that process: pairing verbal and visual information helped students build a referential connection between a word and its meaning. The descriptive-poster treatment, which required students to notice target adjectives, retrieve them while designing, and generatively apply them to describe a chosen individual, offered exactly this kind of dual-coded, hands-on practice.

The pre-test mean of 9.59 reflects the limited vocabulary students brought into the study, consistent with the teacher's observation that VCD students often struggled to recall and use descriptive vocabulary accurately. The rise to a post-test mean of 15.24, with improvement in 16 of 17 students, suggests a consistent rather than outlier-driven gain, while the medium N-Gain (0.535) suggests that a single design-based session moved most students forward, though not uniformly, leaving room for extended practice to deepen the effect.

These results are consistent with previous research: (Suparman & Ridwan, 2026) found a similar significant post-test gain using Canva at the junior high level; while the other study reported a sharp rise in the proportion of elementary students reaching good-to-excellent categories (BAHAR Reg, n.d.); and (Yunianti & Adi Purwanto, 2024) found Canva improved both retention and enjoyment at the senior high level. The present study extends this pattern

to a new population, vocational Visual Communication Design students, whose design-oriented background may make them especially receptive to a visually driven tool like Canva. Because the study used a one-group design with 17 students and a single treatment session, however, these findings should be interpreted as evidence of improvement within this sample rather than definitive proof that Canva alone caused all of the observed change.

CONCLUSIONS

This study concludes that Canva-based instruction was associated with a significant increase in the English vocabulary mastery of tenth-grade Visual Communication Design students at SMK Negeri 5 Palu. The students' mean vocabulary score increased from 9.59 in the pretest to 15.24 in the posttest, and the paired-samples t-test showed a statistically significant difference between the two measurements, $t(16) = -6.197$, $p < .001$. The N-Gain score of 0.535 indicated a medium level of improvement, suggesting that the Canva-based learning activity provided a meaningful contribution to students' vocabulary development within the study context. These findings suggest that integrating visual design activities with vocabulary instruction can provide vocational students with an engaging context for learning and applying English vocabulary. However, the findings should be interpreted cautiously because the study involved a small sample, one intact class, no control group, and a single treatment session. Future research should therefore involve larger samples, control or comparison groups, and multiple treatment sessions to examine the consistency of vocabulary improvement and further investigate the use of Canva for different vocabulary areas and other English language skills.

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