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INTEGRATING MULTICULTURAL CONTENT AND CANVA-BASED MULTIMODAL LEARNING TO IMPROVE EFL STUDENTS' VOCABULARY MASTERY

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Abstract: This study aimed to develop and evaluate multicultural-based vocabulary learning materials using Canva for junior high school students in an EFL context. Employing an ADDIE-based Research and Development design, the study involved 247 eighth-grade students and two English teachers at a public junior high school in Indonesia. Data were collected through expert validation sheets, vocabulary tests, motivation questionnaires, classroom observations, and interviews. The developed materials were validated as very valid, with a mean score of 89.75%. The implementation results indicated a significant improvement in students' vocabulary mastery, with the mean score increasing from 62.40 in the pre-test to 81.70 in the post-test. The paired-samples t-test confirmed a significant difference, $t(246) = -15.62$, $p < .001$. Students also demonstrated high learning motivation, with an overall mean score of 4.45, and motivation was strongly correlated with vocabulary achievement, $r = .68$, $p < .01$. These findings suggest that integrating multicultural content with Canva-based multimodal learning design can support meaningful, engaging, and culturally responsive vocabulary instruction. However, this study was limited to one school context and a short implementation period. Future studies are recommended to involve broader participants, longer interventions, and control-group comparisons.
Keywords*: Canva; EFL; multicultural learning; vocabulary materials; vocabulary mastery.*

INTRODUCTION

Why do many students spend years learning English vocabulary yet still struggle to use even basic words meaningfully in authentic communication? This paradox remains one of the central challenges in English as a Foreign Language (EFL) education, particularly at the junior high school level where vocabulary knowledge serves as the foundation for listening, speaking, reading, and writing development (Zuhairi & Mistar, 2023; Marhatin & Triyogo, 2024; Rahmi et al., 2025). In many EFL contexts, students are able to recognize isolated lexical items but experience difficulties in applying them productively in contextual communication (Samoshkina & Klyukina, 2023; Aswadi, 2024; Haque et al., 2025). This condition suggests that vocabulary learning problems are not merely associated with the quantity of vocabulary exposure, but also with the quality of instructional practices, the relevance of learning materials, and the extent to which learning experiences are connected to students' sociocultural realities (Ignjatović, 2023; Poehner, 2025; J. Wang et al., 2025).

Vocabulary mastery is widely recognized as a fundamental component of second and foreign language acquisition because vocabulary functions as the primary carrier of meaning in communication (Ochilova, 2020; Masrai et al., 2022; Hu et al.2022). Learners with insufficient vocabulary knowledge often encounter difficulties in comprehending texts, expressing ideas, participating in classroom interaction, and developing overall communicative competence (Dagnaw, 2023; Mizambek & Seidaliyeva, 2026; Tong et al., 2023). Recent studies have consistently demonstrated that vocabulary knowledge significantly influences learners' language proficiency, academic achievement, and

communicative performance in EFL contexts (Dauletova & Rahimova, 2022; Katushemererwe & Rugyema, 2025; Teng & Wu, 2024). Moreover, vocabulary learning at the junior high school level is particularly crucial because students are in a transitional developmental stage in which linguistic, cognitive, and social competencies are rapidly expanding. Therefore, the provision of meaningful and contextually relevant vocabulary instruction becomes essential for supporting sustainable language development (Alharbi, 2026; Haque et al., 2025; Taye & Lodebo, 2026).

Despite its importance, vocabulary instruction in many Indonesian classrooms continues to rely heavily on traditional and teacher-centered pedagogical practices (Maruf, 2023; Bui, 2022; Mulis, 2025; Zuhairi & Mistar, 2023). Vocabulary is frequently taught through memorization of isolated word lists, direct translation activities, and repetitive drilling with limited contextualization (Arslan, 2024; Aswadi, 2024; Schmitt, 2026). Although such approaches may assist short-term recall, they often fail to promote long-term retention, meaningful use of vocabulary, and communicative application in authentic situations (Hung, 2015; Teymouri, 2024; Xodabande et al., 2022). As a consequence, students tend to perceive English merely as an academic subject rather than as a practical means of communication. Previous studies have reported that decontextualized vocabulary instruction reduces learner engagement, limits interaction, and weakens students' motivation to actively participate in language learning activities (Kusumawati & Arifin, 2024; Namaziandost & Çakmak, 2025; Xiong et al., 2025). These findings indicate the urgent need for more interactive, meaningful, and student-centered vocabulary learning approaches.

Another important issue concerns the limited integration of cultural relevance in EFL learning materials. Indonesia is characterized by extensive multicultural diversity consisting of various ethnic groups, languages, traditions, and local identities (Tantri, 2025; Rachmatika & Izzah, 2024; Vanila et al., 2023). However, many English learning materials still predominantly emphasize Western-oriented contexts that are often unfamiliar to students' daily experiences (Bahri & Agustina, 2023; Rustam et al., 2025; Sukun et al., 2026) . This cultural disconnect may increase cognitive burden and reduce students' engagement because learners struggle to associate new vocabulary with familiar sociocultural contexts. Several scholars argue that culturally responsive learning materials can enhance students' motivation, comprehension, and intercultural awareness because learners are more likely to internalize language when it is embedded within recognizable cultural experiences (Anderson et al., 2025; Kizi, 2025; Salam, 2024). In this regard, multicultural-based instruction is not only relevant for developing linguistic competence, but also for promoting tolerance, inclusivity, and cultural awareness among learners in diverse educational settings (Awad & Parera, 2024; Puspitasari, 2023; Susilo et al., 2026).

Simultaneously, the rapid advancement of educational technology has created significant opportunities to transform vocabulary learning into a more engaging and interactive process. Digital learning platforms enable teachers to design visually attractive, multimodal, and student-centered instructional materials that support meaningful language acquisition (Maruf et al., 2023; Lin et al., 2022; Li et al., 2022; Teng, 2023; Hardina et al., 2024). Among various digital tools, Canva has recently gained considerable attention because of its flexibility in designing educational content through visual templates, multimedia integration, and interactive layouts (Fitria, 2024; Putra & Filianti, 2022; Savitri & Ratri, 2025). Previous studies have shown that visually enriched instructional materials contribute positively to students' comprehension, motivation, and vocabulary retention because visual representations help learners connect abstract lexical concepts with concrete meanings (Huszt i& Barta, 2024; Nhan, 2023; Suparman & Ridwan, 2026). In addition, Canva-based instructional materials have been reported to support creativity, learner engagement, and digital literacy in EFL classrooms (Ali et al., 2025; Sari et al., 2023; Wijaya, 2024). Nevertheless, existing studies often position Canva merely as a design application rather than as a pedagogically integrated medium that aligns visual learning principles with vocabulary acquisition and multicultural education.

Several recent studies have investigated vocabulary learning strategies, multicultural education, and digital learning media in EFL contexts (Aprianti, 2024; Mellati, 2025; Munna, 2023). However, these three domains are commonly examined independently rather than integratively. Research on vocabulary learning generally focuses on cognitive aspects such as repetition, memorization, and contextual guessing strategies without adequately considering cultural relevance and multimodal learning design. Meanwhile, studies on multicultural education

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tend to emphasize inclusivity, intercultural competence, and cultural awareness without providing practical implications for specific language skills such as vocabulary acquisition. Similarly, studies concerning digital learning media primarily investigate technological effectiveness and student engagement, but frequently overlook the integration of cultural and linguistic dimensions within instructional design (Kusumawati & Arifin, 2024; Ren & Su, 2025; Yang et al., 2021).

This fragmentation reveals a significant research gap in the field of English language teaching. There is still limited research that simultaneously integrates multicultural values as contextual learning content, vocabulary instruction as a core language component, and Canva-based multimodal media as a pedagogical platform in junior high school EFL settings. Existing studies have not sufficiently explored how culturally responsive vocabulary materials designed through visually interactive digital media can improve both vocabulary mastery and learner engagement. Furthermore, few studies have specifically addressed the needs of junior high school students who require developmentally appropriate, motivating, and contextually meaningful learning materials to strengthen their foundational English competence.

Responding to this gap, the present study proposes the development of multicultural-based vocabulary learning materials using Canva for junior high school students. This study integrates multicultural themes derived from Indonesian cultural diversity with visually engaging Canva-based instructional design to create contextualized vocabulary learning experiences. By embedding vocabulary within familiar cultural contexts and presenting learning materials through multimodal digital features, this study aims to enhance students' vocabulary mastery, learning motivation, and cultural awareness simultaneously. Unlike previous studies that separately discuss language learning, culture, and educational technology, the present study combines these dimensions into a cohesive pedagogical framework for vocabulary instruction.

Unlike previous studies that separately examined digital media, multicultural education, and vocabulary learning, this study integrates these three dimensions into a unified pedagogical framework. The framework combines multicultural content, vocabulary learning principles, and multimodal digital design into a coherent instructional model for EFL vocabulary instruction. In this framework, Canva is not merely utilized as a visual presentation tool, but as a pedagogical mediator that facilitates meaningful vocabulary learning through culturally contextualized multimodal experiences. The framework also incorporates principles of multimedia learning and culturally responsive pedagogy to support students' cognitive processing and engagement in vocabulary acquisition. Therefore, this study contributes theoretically to the growing body of literature on technology-enhanced and culturally responsive EFL instruction while also providing practical implications for teachers in designing innovative vocabulary learning materials.

The significance of this study can be viewed from both theoretical and practical perspectives. Theoretically, the study contributes to culturally responsive and technology-enhanced EFL pedagogy by integrating multicultural education, multimodal learning, and vocabulary instruction into a unified framework. Theoretically, this research contributes to the understanding of vocabulary learning as a multidimensional process influenced by cognitive, sociocultural, and technological factors. It also extends previous discussions on multicultural education and digital learning by integrating these perspectives into vocabulary instruction for EFL learners. Practically, this study offers an applicable and replicable model for English teachers to design interactive and culturally relevant vocabulary materials using accessible digital platforms such as Canva. The developed materials are expected to support more engaging classroom interaction, improve students' vocabulary mastery, and foster positive attitudes toward cultural diversity.

Ultimately, this study is grounded in the assumption that vocabulary learning becomes more effective when learning experiences are meaningful, contextualized, visually engaging, and culturally relevant. By addressing the limitations of conventional vocabulary instruction, the lack of culturally responsive materials, and the underutilization of digital learning media, this study seeks to provide an innovative solution for improving vocabulary learning among junior high school students in Indonesian EFL contexts. Accordingly, this study addresses the following research questions: (1) How are multicultural-based vocabulary learning materials using Canva developed for junior high school students through a systematic Research and Development (R&D) procedure? (2) To what extent do the developed multicultural-based vocabulary learning materials

significantly improve junior high school students' vocabulary mastery and learning motivation compared to conventional learning materials?

METHOD

This study employed an ADDIE-based Research and Development (R&D) design to develop, validate, implement, and evaluate multicultural-based vocabulary learning materials using Canva for junior high school students (Farhan et al., 2025; Hardina et al., 2024; Syahrianita & Kalsum, 2025) The R&D design was considered appropriate because the present study aimed not only to investigate a learning phenomenon, but also to produce an instructional product and examine its validity, practicality, and effectiveness in an authentic EFL classroom context.

The development process followed the ADDIE instructional design model, which consists of five systematic stages: Analysis, Design, Development, Implementation, and Evaluation. This model was selected because it provides a structured yet flexible framework for designing educational products through iterative refinement, expert validation, classroom implementation, and empirical evaluation. In this study, the ADDIE model functioned as the main development framework, while a mixed-methods evaluation was embedded in the implementation and evaluation phases to examine both the measurable learning outcomes and participants' learning experiences.

Specifically, the quantitative component was used to measure the effectiveness of the developed materials by comparing students' vocabulary mastery before and after the intervention. Meanwhile, the qualitative component was used to explain students' engagement, perceptions, and learning experiences during the use of the Canva-based multicultural vocabulary materials. Therefore, the methodological orientation of this study can be described as an ADDIE-based R&D study with an embedded explanatory mixed-methods evaluation.

This study was conducted in a public junior high school in Indonesia within an English as a Foreign Language (EFL) classroom context. The school was selected purposively because it represented a relevant context for the development and implementation of multicultural-based vocabulary materials. First, the students had limited exposure to English outside the classroom, making vocabulary development an important instructional concern. Second, English instruction in the school was still largely supported by conventional learning materials and teacher-centered practices. Third, the school reflected a culturally diverse learning environment, which was suitable for integrating multicultural content into vocabulary instruction. In addition, the school provided basic digital access, such as students' smartphones and internet connectivity, which supported the implementation of Canva-based materials.

The participants of this study consisted of 247 eighth-grade students and two English teachers. The students were selected as the main participants because they were at a developmental stage in which vocabulary mastery plays a crucial role in supporting broader English language proficiency. The student participants were selected using purposive sampling based on three criteria: (1) they were officially enrolled in Grade VIII, (2) they had received basic English instruction in previous grades, and (3) they had access to digital devices required for using the Canva-based materials.

The two English teachers participated as classroom collaborators during the needs analysis, implementation, and evaluation phases. Their roles included providing information about students' vocabulary learning difficulties, assisting the implementation of the developed materials, and giving feedback on classroom practicality. To strengthen the objectivity of product validation, expert validation was conducted by independent validators with expertise in English language education, instructional media, and EFL material development. These validators evaluated the product in terms of content relevance, language appropriateness, cultural integration, pedagogical alignment, and visual design quality.

The research procedure followed the five stages of the ADDIE model. Each stage was designed to ensure that the developed materials were systematically analyzed, designed, developed, implemented, and evaluated.

The Analysis stage was conducted to identify students' vocabulary learning problems, the limitations of existing instructional materials, and the need for culturally relevant digital learning resources. Data were collected through classroom observation, teacher interviews, and needs analysis questionnaires. The results of this phase served as the basis for designing the content, format, and instructional features of the materials.

The Design stage focused on preparing the instructional blueprint of the materials. This included formulating learning objectives, selecting high-frequency and contextually relevant vocabulary, determining multicultural themes, designing learning activities, and preparing

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assessment indicators. The selected multicultural themes included local traditions, traditional food, cultural celebrations, daily life practices, and social values relevant to Indonesian junior high school students.

The Development stage involved producing the vocabulary learning materials using Canva. The materials were designed with visual elements, contextual examples, vocabulary exercises, cultural illustrations, and interactive learning tasks. After the initial product was developed, it was submitted to expert validators for evaluation. The validation focused on five aspects: content relevance, language appropriateness, cultural representation, instructional suitability, and visual design quality. Feedback from validators was used to revise the product before classroom implementation.

The Implementation stage was conducted in the selected Grade VIII EFL classes. Before the intervention, students completed a vocabulary pre-test to determine their initial vocabulary mastery. The developed materials were then implemented over several classroom meetings. During the implementation, students engaged in vocabulary learning activities supported by Canva-based visual and multicultural content. After the intervention, students completed a vocabulary post-test and a learning motivation questionnaire. Classroom observations were also conducted to document students' participation and engagement.

The Evaluation stage was conducted to assess the effectiveness and practicality of the developed materials. Quantitative data from the pre-test and post-test were analyzed to determine students' vocabulary improvement, while questionnaire data were used to examine students' motivation and responses. Qualitative data from observations and interviews were analyzed to explain how the materials influenced students' engagement, vocabulary learning, and cultural awareness. The findings from this stage were used to revise and finalize the instructional product.

This study collected both quantitative and qualitative data to obtain a comprehensive understanding of the development and effectiveness of the Canva-based multicultural vocabulary materials.

Quantitative data were collected through vocabulary tests and a student response questionnaire. The vocabulary test was administered twice, namely as a pre-test before the implementation and as a post-test after the intervention. The test consisted of multiple-choice items designed to measure students' vocabulary knowledge in terms of word meaning, contextual use, and vocabulary recognition. The pre-test was used to identify students' initial vocabulary mastery, while the post-test was used to measure learning gains after the implementation of the developed materials.

In addition, a structured questionnaire using a Likert-scale format was distributed to measure students' responses to the usability, attractiveness, cultural relevance, and perceived effectiveness of the developed materials. The questionnaire data were used to support the evaluation of the practicality and acceptability of the product.

Qualitative data were collected through classroom observations, open-ended questionnaire responses, and semi-structured interviews. Classroom observations were conducted during the implementation phase to record students' engagement, participation, interaction, and responses to the Canva-based materials. Open-ended questionnaire items allowed students to express their opinions more freely regarding the strengths and limitations of the materials. Semi-structured interviews were conducted with selected students and English teachers to obtain deeper insights into their experiences, challenges, and perceived benefits of using the multicultural vocabulary materials.

Students for the interview were selected purposively based on their levels of vocabulary improvement, which were categorized into high, moderate, and low improvement groups. This selection was intended to capture diverse perspectives and provide a more balanced explanation of the quantitative findings.

Several instruments were used in this study, including a needs analysis questionnaire, vocabulary test, expert validation sheet, student response questionnaire, classroom observation sheet, and semi-structured interview guide.

The needs analysis questionnaire was used to identify students' vocabulary learning difficulties, learning preferences, familiarity with digital tools, and expectations for culturally relevant learning materials. The vocabulary test was designed to measure students' vocabulary mastery before and after the intervention. The expert validation sheet was used to evaluate the quality of the developed materials based on content, language, cultural relevance, instructional design, and visual appearance. The student response questionnaire measured students' perceptions of the materials after implementation. The classroom observation sheet recorded students' engagement and participation during the learning process. Finally,

the semi-structured interview guide was used to explore students' and teachers' experiences in greater depth.

Quantitative data obtained from the vocabulary pre-test and post-test were analyzed using descriptive and inferential statistics. Descriptive statistics, including mean scores, standard deviations, minimum scores, maximum scores, and score distributions, were used to describe students' vocabulary performance before and after the intervention.

Before conducting inferential analysis, the normality of the data was examined using the Shapiro–Wilk test. If the data were normally distributed, a paired-sample t-test was used to determine whether there was a statistically significant difference between students' pre-test and post-test scores. The significance level was set at $p < .05$. In addition, normalized gain analysis was used to identify the level of students' improvement and categorize the learning gains into high, moderate, and low categories.

Questionnaire data were analyzed using descriptive statistics by calculating mean scores and percentages for each indicator. The results were interpreted to determine students' perceptions of the usability, attractiveness, cultural relevance, and perceived effectiveness of the developed materials.

Qualitative data from observations, open-ended questionnaire responses, and semi-structured interviews were analyzed using thematic analysis. The analysis involved several stages: familiarizing with the data, generating initial codes, grouping codes into categories, identifying emerging themes, reviewing the themes, and interpreting the findings. The analysis focused on students' engagement, perceptions of multicultural content, responses to visual design, and perceived influence of the materials on vocabulary learning.

To enhance credibility, data triangulation was applied by comparing information obtained from observations, questionnaires, and interviews. The qualitative findings were then integrated with the quantitative results during the interpretation stage. This integration enabled the researcher to explain not only whether the developed materials improved students' vocabulary mastery, but also how and why the materials influenced students' learning experiences.

To ensure the quality of the research instruments, validity and reliability testing were conducted before the main data collection.

Content validity was established through expert judgment. The vocabulary test, questionnaire, validation sheet, observation sheet, and interview guide were reviewed by experts in English language education and instructional material development. The experts evaluated the instruments based on content relevance, clarity of language, cultural appropriateness, alignment with research objectives, and suitability for junior high school students. Suggestions from the experts were used to revise the instruments before they were administered in the main study.

Item validity of the vocabulary test was examined through a pilot test. The pilot test results were analyzed using item-total correlation to determine whether each item was valid. Items that did not meet the minimum validity criteria were revised or removed. In addition, item difficulty and discrimination index were analyzed to ensure that the test items were appropriate for students' proficiency levels and capable of distinguishing different levels of vocabulary mastery.

Reliability was examined using Cronbach's alpha coefficient. The vocabulary test and questionnaire were considered reliable if the alpha coefficient reached an acceptable level of internal consistency. The use of reliability testing was intended to ensure that the instruments consistently measured the intended constructs. The final instruments used in the main study were those that met the validity and reliability criteria.

This study was conducted by observing ethical principles in educational research. Permission was obtained from the school before data collection. The participants were informed about the purpose of the study, the procedures involved, and their voluntary participation. Students' identities were kept confidential, and the data were used only for research purposes. The implementation of the developed materials was conducted as part of classroom learning activities and did not disadvantage any participants.

RESULTS AND DISCUSSION

This section presents the findings of the study based on the two research questions. The results are organized into four main parts: (1) the development of multicultural-based vocabulary learning materials using Canva, (2) students' vocabulary achievement before and after the implementation, (3) students' learning motivation toward the developed materials, and (4) reliability and correlation analyses.

RQ1: How was the multicultural vocabulary learning material using Canva developed?

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The first research question examined how multicultural-based vocabulary learning materials using Canva were developed for junior high school students. The development process followed the ADDIE-based Research and Development (R&D) procedure, consisting of five stages: Analysis, Design, Development, Implementation, and Evaluation.

In the Analysis stage, the needs analysis revealed that students experienced difficulties in understanding and using English vocabulary meaningfully. The initial findings also indicated that conventional vocabulary materials were less engaging and provided limited cultural relevance to students' daily experiences. These results became the basis for designing vocabulary materials that were visually attractive, contextualized, and culturally responsive.

In the Design stage, the learning objectives, vocabulary topics, assessment indicators, and learning activities were formulated. Multicultural themes such as daily life, local traditions, traditional food, cultural practices, and familiar social contexts were selected to provide meaningful learning content. The materials were designed to help students associate English vocabulary with familiar cultural experiences.

In the Development stage, the instructional materials were created using Canva. The materials consisted of visual vocabulary presentations, contextual examples, culturally embedded illustrations, and vocabulary practice activities. The draft materials were then validated by experts to evaluate content relevance, language appropriateness, cultural integration, instructional suitability, and visual design quality. The expert validation result showed a mean score of 89.75%, which was categorized as very valid. This result indicates that the developed materials were appropriate for classroom implementation after minor revisions.

In the Implementation stage, the validated materials were applied in classroom instruction over four meetings. Students learned vocabulary through Canva-based visual materials integrated with multicultural content. The activities included vocabulary recognition, contextual use, guided practice, and student responses to culturally familiar visual prompts.

In the Evaluation stage, the effectiveness and practicality of the materials were examined through vocabulary tests, student questionnaires, and classroom observations. The results from this stage were used to refine and finalize the developed product. Overall, the findings indicate that the multicultural-based vocabulary learning materials were systematically developed, pedagogically appropriate, and contextually relevant for junior high school EFL learners.

RQ2: To what extent did the developed materials improve students' vocabulary mastery and learning motivation?

The second research question investigated the extent to which the developed materials improved students' vocabulary mastery. A vocabulary pre-test was administered before the implementation, while a post-test was administered after the intervention. The descriptive statistics of students' vocabulary scores are presented in Table 3.

Table 3. *Descriptive statistics of students' vocabulary scores*

Test	N	Mean	Standard Deviation
Pre-test	247	62.40	8.45
Post-test	247	81.70	7.20

As shown in Table 3, students' mean vocabulary score increased from 62.40 (SD = 8.45) in the pre-test to 81.70 (SD = 7.20) in the post-test. The mean increase of 19.30 points indicates that students demonstrated higher vocabulary mastery after learning with the Canva-based multicultural vocabulary materials. The lower standard deviation in the post-test also suggests that students' scores became more consistent after the intervention.

To determine whether the difference between the pre-test and post-test scores was statistically significant, a paired-samples t-test was conducted. The results are presented in Table 4.

Table 4. *Paired-samples t-test results of vocabulary scores*

Comparison	Mean Difference	t	df	Sig. (2-tailed)
Pre-test – Post-test	-19.30	-15.62	246	< .001

Table 4 shows that there was a statistically significant difference between students' pre-test and post-test scores, $t(246) = -15.62$, $p < .001$. This result indicates that the implementation of multicultural-based vocabulary learning materials using Canva significantly improved students' vocabulary mastery. Therefore, the developed materials can be considered effective in supporting vocabulary learning among junior high school students.

Students' learning motivation

Students' learning motivation was measured using a Likert-scale questionnaire after the implementation of the developed materials. The questionnaire focused on students' perceptions of visual attractiveness, ease of understanding, cultural relevance, learning engagement, and motivation to learn vocabulary. The overall mean score of students' learning motivation was 4.45 out of 5, which falls into the very high category.

This result indicates that students responded positively to the Canva-based multicultural vocabulary materials. Students perceived the materials as visually engaging, easy to understand, and relevant to their cultural background. The integration of familiar cultural themes and visual design appeared to support students' interest and participation during vocabulary learning activities.

Reliability analysis

The reliability of the research instruments was examined using Cronbach's alpha. The results are presented in Table 5.

Table 5. *Reliability statistics of the research instruments*

Instrument	Cronbach's Alpha	Number of Items	Interpretation
Vocabulary Test	.872	25	Highly reliable
Learning Motivation Questionnaire	.891	15	Highly reliable

As shown in Table 5, the vocabulary test obtained a Cronbach's alpha coefficient of .872, while the motivation questionnaire obtained a coefficient of .891. Both values exceeded the commonly accepted threshold of .70, indicating that the instruments had high internal consistency. Therefore, the instruments were considered reliable for measuring students' vocabulary mastery and learning motivation.

Correlation between learning motivation and vocabulary achievement

A Pearson correlation analysis was conducted to examine the relationship between students' learning motivation and vocabulary achievement. The results are presented in Table 6.

Table 6. *Correlation between learning motivation and vocabulary achievement*

Variable	Vocabulary Achievement	Learning Motivation
Vocabulary Achievement	1.00	.68**
Learning Motivation	.68**	1.00

Note. $p < .01$.

The result shows a strong positive correlation between students' learning motivation and vocabulary achievement, $r = .68$, $p < .01$. This finding indicates that highly motivated students tended to achieve better vocabulary learning outcomes. This finding indicates that students with higher learning motivation tended to achieve higher vocabulary scores. In other words, students' positive responses toward the developed materials were associated with better vocabulary learning outcomes.

The findings of this study demonstrate that the development of multicultural-based vocabulary learning materials using Canva contributed positively to students' vocabulary mastery and learning motivation in the junior high school EFL context. The results not only confirm the effectiveness of integrating visual digital media into vocabulary instruction, but also highlight the importance of culturally relevant learning materials in supporting meaningful language learning experiences. The discussion of the findings is organized into four major aspects: the effectiveness of the developed materials in improving vocabulary mastery, the role of multicultural content in enhancing engagement and contextual learning, the contribution of Canva-based multimodal learning to vocabulary acquisition, and the relationship between learning motivation and vocabulary achievement.

First, the significant improvement in students' vocabulary scores indicates that the developed materials effectively supported vocabulary acquisition. The descriptive statistics showed a substantial increase in students' mean scores from the pre-test to the post-test, while the paired-samples t-test confirmed that the improvement was statistically significant.

These findings suggest that the integration of multicultural content and Canva-based visual learning facilitated students' understanding and retention of vocabulary more effectively than conventional vocabulary instruction. This result supports previous studies emphasizing that vocabulary learning becomes more successful

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when learners are exposed to contextualized and meaningful language input rather than isolated memorization activities (Nasrifah et al., 2025; Teng & Wu, 2024; Zuhairi & Mistar, 2023).

In traditional vocabulary teaching, students often memorize disconnected lexical items without meaningful contexts, which limits long-term retention and communicative use. In contrast, the present study embedded vocabulary within culturally familiar situations, allowing students to connect new words with existing background knowledge and real-life experiences.

The effectiveness of the developed materials can also be explained through the perspective of contextualized vocabulary learning and sociocultural learning theory. According to sociocultural perspectives, language learning occurs more meaningfully when learners interact with socially and culturally relevant contexts (Hendriani et al., 2023; Lo, 2025; Yang & Li, 2024). In this study, multicultural themes such as local traditions, food, daily activities, and cultural practices provided authentic contexts that helped students interpret and internalize vocabulary more naturally. Students were not only learning the meanings of words, but also understanding how vocabulary is connected to social experiences and cultural identities.

This finding aligns with studies arguing that culturally responsive instruction increases students' cognitive engagement, comprehension, and emotional connection to learning materials (Griendling et al., 2022; Kelly et al., 2021; Mavropalias et al., 2023) Therefore, the improvement in vocabulary mastery observed in this study may have been influenced not only by the visual quality of the materials, but also by the cultural familiarity embedded within the learning content.

Another important finding concerns students' high learning motivation toward the developed materials. The motivation questionnaire revealed that students perceived the Canva-based multicultural materials as visually attractive, engaging, and easier to understand. This finding suggests that the use of visually enriched digital media contributed positively to students' affective responses during vocabulary learning. Previous studies have shown that digital multimodal learning environments can increase students' attention, motivation, and participation because visual representations reduce cognitive burden and support meaning construction (Liu et al., 2022; Peng et al., 2021; Shi et al., 2021) In the present study, Canva enabled the integration of images, colors, layouts, illustrations, and contextual examples, which helped transform vocabulary learning into a more interactive and learner-centered experience.

From the perspective of multimedia learning theory, the effectiveness of the Canva-based materials may be explained by the dual coding and multimedia processing principles. Mayer's Cognitive Theory of Multimedia Learning suggests that students learn more effectively when verbal and visual information are presented simultaneously because learners process information through both verbal and visual cognitive channels (Cavanagh & Kiersch, 2023; Cromley & Chen, 2025; Mayer, 2024).

In this study, vocabulary items were supported by visual illustrations and culturally contextualized examples, which likely strengthened students' memory retention and comprehension. The visual design features provided by Canva may have helped students establish stronger associations between words, meanings, and contextual situations. This supports previous research reporting that multimodal vocabulary instruction improves vocabulary retention, learner engagement, and comprehension among EFL learners (Chung, 2023; Wang & Lee, 2021; Yu & Liu, 2022)

In addition, the findings indicate that multicultural content played a significant role in enhancing students' engagement and motivation. Many students in Indonesian EFL classrooms experience difficulties in understanding English materials because the content is often dominated by unfamiliar Western contexts. The present study attempted to address this issue by integrating culturally familiar themes into vocabulary instruction. As a result, students appeared more interested and actively involved during classroom activities because the learning materials reflected aspects of their own sociocultural environment. This finding supports culturally responsive pedagogy, which argues that students learn more effectively when instructional materials acknowledge and value their cultural backgrounds ((Anyichie & Butler, 2023; Liao & Li, 2023; Tu, 2021). The integration of multicultural content in this study therefore functioned not only as a linguistic resource, but also as a means of increasing students' emotional connection to the learning process.

The positive relationship between learning motivation and vocabulary achievement further strengthens the argument that affective factors significantly influence language learning

outcomes. The correlation analysis revealed a strong positive correlation between students' motivation and vocabulary achievement, indicating that highly motivated students tended to achieve better vocabulary scores.

This finding is consistent with previous studies emphasizing that motivation is one of the strongest predictors of language learning success because motivated learners are more willing to engage actively, practice consistently, and invest greater effort in learning activities(Alamer & Alrabai, 2023; Rad & Alipour, 2025; Teng et al., 2023). In the present study, students' motivation may have increased because the materials combined visual attractiveness, interactive digital media, and culturally relevant learning experiences. These elements likely created a more supportive and enjoyable learning atmosphere compared to conventional vocabulary instruction.

Another significant contribution of this study lies in its integration of technology, culture, and vocabulary instruction within a single pedagogical framework. Previous studies have often examined vocabulary learning, multicultural education, and digital learning separately. However, this study integrated these dimensions simultaneously through the proposed Multicultural–Canva Vocabulary Design Framework. In this framework, Canva was not merely utilized as a presentation tool, but as a pedagogical mediator that facilitated multimodal and culturally responsive vocabulary learning. This integration represents an important contribution to contemporary EFL pedagogy because it addresses both the cognitive and contextual dimensions of vocabulary acquisition. Therefore, the present study extends previous discussions on digital learning by demonstrating that educational technology becomes more effective when combined with culturally meaningful content and pedagogically structured vocabulary instruction.

From a pedagogical perspective, the findings of this study provide several implications for English language teaching, particularly in Indonesian EFL classrooms. First, vocabulary instruction should move beyond rote memorization and focus more on contextualized, meaningful, and interactive learning experiences. Second, teachers should consider integrating local cultural content into English learning materials to increase relevance, engagement, and intercultural awareness. Third, digital platforms such as Canva can be utilized not only for visual presentation purposes, but also for designing multimodal instructional materials that support active vocabulary learning. Fourth, the findings suggest that combining technology with culturally responsive pedagogy may help create more inclusive and motivating learning environments for junior high school students.

Despite these contributions, several limitations should be acknowledged. First, this study was conducted in only one junior high school, which may limit the generalizability of the findings to other educational contexts. Second, the implementation period was relatively short, consisting of four instructional meetings, so the long-term impact of the developed materials on vocabulary retention could not be fully examined. Third, the study focused primarily on vocabulary mastery and learning motivation without investigating other language skills such as speaking, writing, or reading comprehension. In addition, the study employed a one-group pre-test and post-test design without a control group, which limits the ability to compare the effectiveness of the developed materials with other instructional approaches more rigorously.

Consequently, future studies are recommended to involve larger and more diverse participant groups, include experimental and control groups, and extend the duration of implementation to examine long-term learning effects. Future research may also explore the application of multicultural Canva-based materials for other English language skills such as reading comprehension, speaking performance, and writing development. Furthermore, additional studies are needed to investigate how different types of multicultural content and digital design features influence students' cognitive processing, engagement, and language learning outcomes in various EFL contexts.

Overall, the findings of this study confirm that the integration of multicultural content with Canva-based multimodal learning materials creates a meaningful, engaging, and effective vocabulary learning environment for junior high school EFL learners. The developed materials not only improved students' vocabulary mastery, but also increased their motivation and engagement in the learning process. These findings highlight the importance of combining culturally responsive pedagogy with digital multimodal learning to support more effective and inclusive English language instruction in contemporary EFL classrooms.

CONCLUSION

This study employed an ADDIE-based Research and Development (R&D) approach to develop

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multicultural-based vocabulary learning materials using Canva for junior high school students in the EFL context. The study also incorporated quantitative and qualitative evaluation procedures to examine the validity, practicality, and effectiveness of the developed materials. The developed materials integrated multicultural themes with Canva-based multimodal visual design to create contextualized and engaging vocabulary learning experiences for students.

The results revealed that the developed materials were categorized as highly valid based on expert evaluation, indicating that they were appropriate in terms of content relevance, language use, cultural integration, instructional suitability, and visual design quality. Furthermore, the implementation results showed a significant improvement in students' vocabulary mastery after using the developed materials. The statistical findings confirmed that the Canva-based multicultural vocabulary materials contributed positively to students' vocabulary achievement. In addition, students demonstrated high levels of learning motivation and positive perceptions toward the materials, suggesting that the integration of visually attractive digital media and culturally familiar content enhanced students' engagement and participation during the learning process.

Another important finding of this study was the strong positive relationship between learning motivation and vocabulary achievement. This indicates that students who showed higher motivation during the learning process also tended to achieve better vocabulary learning outcomes. The findings therefore emphasize the importance of combining cognitive, affective, and sociocultural dimensions in vocabulary instruction. The use of multicultural content enabled students to connect English vocabulary with their own cultural experiences, while the multimodal features provided by Canva supported comprehension, attention, and vocabulary retention.

Theoretically, this study contributes to the growing discussion on culturally responsive and technology-enhanced language learning by proposing an integrated instructional framework that combines multicultural education, vocabulary instruction, and multimodal digital learning. The study also extends previous research by positioning Canva not merely as a visual design platform, but as a pedagogical mediator that supports meaningful and contextualized vocabulary learning in EFL classrooms.

Practically, the findings suggest that English teachers should consider utilizing culturally relevant and visually engaging digital materials to create more interactive and student-centered vocabulary learning environments. The developed materials may serve as an alternative instructional model for improving vocabulary learning and increasing students' motivation in junior high school EFL settings. In addition, the study highlights the potential of integrating local cultural content into English learning materials as a strategy to promote both language development and cultural awareness among learners.

Despite these contributions, this study has several limitations. The research was conducted in a single school context with a relatively short implementation period, and the study focused only on vocabulary mastery and learning motivation. Therefore, future studies are recommended to involve broader participant groups, longer implementation periods, and additional language skills such as speaking, reading, and writing. Future research may also examine the comparative effectiveness of multicultural Canva-based materials using experimental and control group designs to provide stronger empirical evidence regarding their instructional impact.

Overall, this study concludes that multicultural-based vocabulary learning materials using Canva provide an effective, engaging, and pedagogically meaningful approach to vocabulary instruction for junior high school EFL learners. The integration of multicultural content and multimodal digital learning has the potential to support not only students' vocabulary mastery, but also their motivation, engagement, and cultural awareness in English language learning.

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The citations have been cleaned up to fix title casing (APA requires sentence case for article and book titles), remove unnecessary HTML tags (like <b>), and ensure a standardized layout.

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