



Using Interactive Poster in Improving English Vocabulary of Vocational High School Students

Ovy Nawang¹, Sri Widodo², Andrian Nuriza Johan³

^{1,2,3}Universitas Muhammadiyah Purworejo

Article Info

Accepted: 2026-04-28

Revised: 2026-05-22

Accepted: 2026-06-25

Keywords:

Interactive Posters,
Vocabulary Mastery,
English Learning,
Vocational High School

DOI:

10.24256/ideas.v14i1.10340

Corresponding authors:

Ovy Nawang
ovynawang@gmail.com
Universitas Muhammadiyah
Purworejo

Abstract

Vocabulary mastery is an essential component of learning English as a foreign language because it supports students' ability to understand and communicate effectively. However, many vocational high school students still experience difficulties in mastering vocabulary due to limited learning media and low classroom engagement. Interactive posters present vocabulary through images, colors, keywords, and interactive activities that encourage students to participate actively during learning. In addition, the interactive posters integrated visual elements and task-based interactions to enhance students' vocabulary engagement during the learning process. This study investigates the effectiveness of interactive poster media in improving students' English vocabulary mastery. This study employed a quantitative method using a one-group pre-test and post-test design. The participants were 35 students of class XI BCF at a vocational high school in Purworejo. Data were collected through vocabulary tests administered before and after the treatment and analyzed using a Paired Sample T-Test. The findings showed that the mean score increased from 80.71 in the pre-test to 86.29 in the post-test, with a mean difference of 5.58 points. The statistical analysis revealed that the significance value (Sig. 2-tailed) was lower than 0.05, indicating a statistically significant improvement in students' vocabulary mastery after the implementation of visual-interactive materials. Therefore, interactive posters can be considered an effective alternative learning medium to enhance students' engagement and vocabulary learning outcomes.

1. Introduction

Vocabulary mastery is a fundamental component of foreign language acquisition because it supports learners' ability to communicate effectively through listening, speaking, reading, and writing. Without sufficient vocabulary knowledge, students often experience difficulties in understanding texts, expressing ideas, and participating actively in communication. Several scholars emphasize that vocabulary plays a central role in language learning because it supports language performance, communication skills, and students' confidence in using English (Rasulova, 2023; Jambari et al., 2021; Wardana, 2023).

Furthermore, vocabulary mastery is closely related to the development of the four language skills and therefore should be integrated into meaningful learning activities rather than taught through isolated memorization (Robiya, 2024; Yudha, 2021). Consequently, improving students' vocabulary mastery remains an important objective in English as a Foreign Language (EFL) learning, particularly at the vocational school level.

Despite its importance, many vocational school students still face difficulties in mastering English vocabulary. Students often struggle to remember new words, understand vocabulary in context, pronounce words correctly, and apply appropriate vocabulary in communication. Previous studies revealed that vocabulary learning difficulties are influenced by several factors, including differences between written and spoken forms, limited vocabulary exposure, pronunciation challenges, and insufficient understanding of grammatical forms (Susanto, 2021; Surmanov, 2020).

In addition, students frequently experience difficulties in translating words, memorizing vocabulary, and identifying contextual meanings (Machfudi, 2022). These challenges are often worsened by the use of traditional teaching methods, such as memorizing word lists and copying definitions, which tend to reduce students' motivation and classroom participation. As a result, students become passive during learning activities and show limited engagement in vocabulary learning.

Based on preliminary observations conducted in class XI BCF of SMK N 2 Purworejo, many students demonstrated limited vocabulary mastery. Several students experienced difficulties recalling English words during classroom activities and relied heavily on translation applications to understand simple instructions or short texts. Moreover, the limited use of engaging learning media contributed to passive classroom participation and low involvement in vocabulary-related activities.

These conditions indicate the need for alternative learning media that can improve students' engagement and support more effective vocabulary learning. One learning medium that has the potential to support vocabulary instruction is the use of posters. Posters combine visual elements such as images, colors, symbols, and short texts to present information clearly and attractively.

Previous studies have shown that visual learning media can improve students' vocabulary understanding and retention because visual representations help learners' associate words with meanings more effectively (Jannah, 2022; Komsah, 2022). In vocabulary learning, posters can help students remember new words, understand vocabulary in context, and increase learning motivation through visually engaging materials.

Furthermore, posters can be developed into interactive posters that encourage students' active participation during the learning process. Interactive posters integrate visual information with interactive elements such as QR codes, short tasks, discussion prompts, or digital links that allow students to explore learning materials more actively. According to Firdani and Hariastuti (2019), interactive posters are designed to attract attention and motivate learners through active engagement.

Similarly, Dale and Kline (2017) explain that interactive posters support communication and information exchange by transforming students from passive recipients into active participants in learning activities. Interactive learning media also positively influence students' engagement and classroom participation (Aulia et al., 2024).

The use of interactive posters in vocabulary learning is supported by Mayer's Cognitive Theory of Multimedia Learning, which explains that students learn more effectively when information is presented through both verbal and visual representations. In addition, Dual Coding Theory suggests that combining words and images can improve memory retention and vocabulary recall. Through the integration of visual and interactive elements, students are expected to process vocabulary more meaningfully and retain information more effectively.

However, the implementation of interactive learning media may also face several challenges, such as limited technological accessibility, students' dependence on digital devices, and the possibility of distraction during classroom activities. Despite these limitations, interactive posters remain potentially beneficial when implemented appropriately in vocabulary instruction.

Previous studies have demonstrated that visual-based learning media, such as posters, flashcards, and digital images, can improve students' vocabulary acquisition. However, most existing studies focus mainly on conventional visual media rather than interactive posters that combine visual design with digital and task-based interaction. Furthermore, research investigating the use of interactive posters in vocational school contexts, particularly at SMK N 2 Purworejo, remains limited. This research gap highlights the need for further investigation into the effectiveness of interactive posters in supporting vocabulary learning at the vocational school level.

Therefore, this study investigates the effectiveness of using interactive posters to improve students' English vocabulary mastery in class XI BCF of SMK N 2 Purworejo. Specifically, this study aims to determine whether the use of interactive posters significantly improves students' vocabulary mastery.

Literature Review

Learning Media in Teaching Vocabulary

Muhaimin (2023) states that learning media were tools that assisted the process of transferring knowledge from teachers to students, making learning more effective. Learning media referred to tools, materials, or resources used by teachers to deliver instructional content and support the learning process.

In teaching vocabulary, learning media are particularly important because vocabulary learning requires clear presentation, repetition, and meaningful context. According to Mardianti & Eliza (2022), the use of visual media was effective in improving students' vocabulary. The use of learning media, especially visual and interactive media, helps students recognize word meanings, forms, and usage more effectively.

Visual elements such as images, symbols, and colors assist learners in memorizing new words. According to Muabidah & Setiawan (2024), the used of interactive learning media (ILM) has a big influence and is more effective than conventional learning media. Liando (2022) states that that picture as a learning medium greatly affects student learning outcomes in terms of vocabulary. Therefore, learning media in teaching vocabulary are considered effective in improving students' vocabulary mastery, especially for English as a Foreign Language (EFL) learners at the secondary school level.

Using Poster in Teaching Vocabulary

Posters are visual learning media that combine text, images, colors, and symbols to convey information in a clear and attractive way. According to Jannah (2022), the application of interactive visual media was considered an alternative to enhance students' learning because posters were defined as visual learning media that combined text, images, colors, and symbols to convey information clearly, presented learning content in a concise and visually appealing manner, and helped simplify complex information so that students could understand and remember the material more easily.

Komsah (2022) states that there is significant effect of using poster-based instruction to students' vocabulary. In teaching vocabulary, posters are commonly used to present words along with their meanings, images, or examples, which helps students understand and remember new vocabulary more easily. The visual elements displayed on posters support students in associating words with images, making vocabulary learning more meaningful and effective.

The use of posters in teaching vocabulary also helps increase students' attention and motivation during the learning process. Posters allow vocabulary to be presented in a concise and organized form, enabling students to repeatedly see and review the words during classroom activities.

This repeated exposure supports vocabulary retention and reinforces students' memory. Therefore, using posters in teaching vocabulary is considered an effective strategy to support students' vocabulary mastery, particularly for English as a Foreign Language (EFL) learners at the secondary school level.

Interactive Poster

According to Firdani & Hariastuti (2019), an interactive poster was a powerful learning medium that combined colors and messages with the purpose of capturing attention, persuading, and motivating learners through interactive and active engagement with readers. Interactive posters could be used to increase students' attention during the learning process.

In addition, Dale & Kline (2017) states that interactive posters were effective media for attracting attention, communicating ideas, and exchanging information with users. Unlike conventional posters, interactive posters provided opportunities for learners to interact through activities such as questioning, discussion, guided tasks, or digital interaction. This interaction transformed students from passive recipients into active participants in the learning process.

Aulia, et al (2024) states that interactive learning media had a positive impact on students' engagement in the learning process. The interactive elements embedded in the posters encouraged students to explore learning materials more deeply and participate actively during lessons. As a result, students showed higher levels of attention and interest compared to learning activities that used conventional media. In language learning, interactive posters were frequently used to support vocabulary instruction. The combination of text, images, and interactive tasks helped students associate words with visual representations and contextual usage. This approach supported vocabulary retention and recall, as students were involved in both cognitive and physical interaction with learning materials.

Furthermore, interactive posters supported collaborative learning by encouraging students to work together, discuss ideas, and solve tasks related to vocabulary learning. Such interaction helped students practice vocabulary in meaningful contexts. Therefore, the use of interactive posters was considered an effective learning medium to improve students' vocabulary mastery, particularly in English as a Foreign Language (EFL) classroom.

Theoretical Framework

Cognitive Theory of Multimedia Learning

Cognitive Theory of Multimedia Learning explains that students learn more effectively when information is presented through both verbal and visual representations. The integration of images, text, colors, and interactive elements can help students process information more efficiently and improve comprehension. Munfaridah et al. (2021) state that the use of pictures as visual representations in the learning process can enhance students' learning outcomes and engagement. In vocabulary learning, interactive posters provide visual and verbal input simultaneously, helping students understand and remember new vocabulary more effectively.

Dual Coding Theory

Dual Coding Theory, proposed by Allan Paivio, suggests that learning becomes more effective when verbal and visual information are combined. According to Mir et al. (2023), dual coding enhances learning and memory recall because students process information through both verbal and visual channels simultaneously. In the context of vocabulary learning, interactive posters combine words, images, symbols, and colors that help students associate vocabulary with visual representations. As a result, students can improve vocabulary retention and recall more effectively.

Constructivist Learning Theory

Constructivist Learning Theory emphasizes that students learn more effectively through active participation and meaningful interaction during the learning process. Hodges (2020) explains that active learning strategies improve students' cognitive engagement when students are involved in activities, discussions, and collaborative learning rather than only listening to lectures passively. The ICAP framework introduced by Hodges also highlights that interactive and constructive activities encourage deeper thinking processes and better learning outcomes.

In vocabulary learning, interactive posters encourage students to actively engage with learning materials through discussion, task completion, and digital interaction. Therefore, interactive posters can support students' active participation and improve vocabulary learning effectiveness.

2. Method

Research Design

This study employed a quantitative research method using a one-group pre-test and post-test design. The design was used to measure students' vocabulary mastery before and after the implementation of interactive poster media. In this design, students were given a pre-test prior to the treatment and a post-test after

the treatment to identify any improvement in vocabulary mastery. The use of a one-group pre-test and post-test design was considered appropriate because the study aimed to examine the effectiveness of interactive posters in improving students' vocabulary mastery.

However, this design also has several limitations, such as the absence of a control group, possible testing effects, and threats to internal validity that may influence the research results.

Research Setting and Participants

This research was conducted at SMK Negeri 2 Purworejo, a public vocational high school located in Purworejo Regency, Central Java, during the even semester of the 2025/2026 academic year. The population of this study consisted of all eleventh-grade students at the school. The sample was 35 students from class XI BCF selected through purposive sampling technique.

This class was selected because the students demonstrated limited vocabulary mastery, low classroom participation, and difficulties in understanding vocabulary during English learning activities. In addition, the class required more engaging learning media to support vocabulary learning effectively, making it relevant to the objectives of this study.

Research Instrument

The main instrument used in this study was a vocabulary test designed to measure students' English vocabulary mastery. The test consisted of 20 items, including 10 multiple-choice questions, 5 matching items, and 5 essay questions. The test items were developed based on vocabulary materials taught during the learning process, including word meaning, vocabulary usage, and contextual understanding.

To ensure the credibility of the instrument, the test items were reviewed and adjusted according to the learning objectives and students' vocabulary competencies. The same test format was administered as both the pre-test and post-test. The pre-test aimed to identify students' initial vocabulary mastery before the treatment, while the post-test was conducted to measure students' vocabulary improvement after the implementation of interactive visual media.

Students' answers were scored using an objective scoring system in which each correct answer received one point and each incorrect answer received zero. The total score was converted into percentage form using the following formula:

$$\text{Score} = \frac{\text{Total correct answer}}{\text{Total number of items}} \times 100$$

Treatment Procedure

The data collection procedure consisted of three main stages: pre-test, treatment, and post-test. First, the pre-test was administered to determine students' initial vocabulary mastery before the treatment. Second, the treatment was conducted over three meetings using visual-interactive materials in the teaching and learning process. During the treatment, students learned vocabulary through visually rich posters containing images, keywords, colors, contextual examples, and interactive elements such as short tasks and guided discussions.

Students were encouraged to identify vocabulary meanings, match words with pictures, discuss vocabulary usage, and complete activities related to the poster content. These activities aimed to increase students' engagement and participation during vocabulary learning. Finally, the post-test was administered after the treatment to measure students' vocabulary mastery and identify improvements in students' scores compared to the pre-test results.

Data Analysis

The data obtained from the pre-test and post-test were analyzed quantitatively using SPSS. Before conducting the hypothesis test, normality testing was conducted to ensure that the data met the assumptions required for parametric analysis. After the data were confirmed to be normally distributed, a Paired Sample T-Test was conducted to compare students' mean scores before and after the treatment.

The level of significance used in this study was 0.05 ($\alpha = 0.05$). If the significance value (Sig. 2-tailed) was lower than 0.05, it indicated that the use of visual-interactive materials had a significant effect on students' vocabulary mastery. In addition, the mean difference between pre-test and post-test scores was used to identify the extent of students' vocabulary improvement after the treatment.

3. Results

Description of Research Data

This study aimed to determine the effect of using interactive poster media on students' vocabulary mastery at class XI BCF of SMK Negeri 2 Purworejo. The research data were collected through vocabulary tests administered before the treatment (pre-test) and after the treatment (post-test). The treatment was conducted using interactive visual media during the teaching and learning process. The sample of this study consisted of 35 students.

The pre-test was conducted to identify students' initial vocabulary mastery before the implementation of poster-based instruction. Meanwhile, the post-test was administered after the treatment to measure students' vocabulary improvement

after participating in vocabulary learning activities using interactive posters. The scores obtained from both tests were analyzed using descriptive and inferential statistical analysis to determine whether there was a significant improvement in students' vocabulary mastery.

To provide a clearer overview of students' vocabulary achievement before and after the treatment, descriptive statistics were used to analyze the mean score, minimum score, maximum score, and standard deviation of both tests. The descriptive statistics of the pre-test and post-test are presented in Table 4.1.

Descriptive Statistics

Table 4.1 Descriptive Statistics of Pre-Test and Post-Test

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
Pre-Test Score	35	35	95	80.71	13.728
Post-Test Score	35	60	95	86.29	8.166
Valid N (listwise)	35				

Based on Table 4.1, the mean score of the pre-test was 80.71, while the mean score of the post-test increased to 86.29. The increase in the mean score indicates that students' vocabulary mastery improved after the implementation of interactive poster media. The mean difference between the pre-test and post-test scores was 5.58 points, showing measurable progress in students' vocabulary achievement after the treatment.

The descriptive statistics also show differences in the distribution of students' scores before and after the treatment. In the pre-test, the minimum score was 35 and the maximum score was 95, indicating that students' initial vocabulary mastery varied considerably. Meanwhile, in the post-test, the minimum score increased to 60 while the maximum score remained 95. This finding indicates that lower-achieving students also demonstrated improvement after the implementation of interactive visual media.

Furthermore, the standard deviation of the pre-test was 13.728, while the standard deviation of the post-test decreased to 8.166. The decrease in the standard deviation indicates that students' vocabulary scores became more consistent after the treatment. In other words, the gap between students with lower vocabulary mastery and those with higher vocabulary mastery became smaller after learning through visual-interactive materials.

The improvement in students' vocabulary mastery may have occurred because interactive poster media provided visually engaging and interactive learning experiences. The use of images, colors, keywords, and contextual examples helped students associate vocabulary with visual representations, making vocabulary easier to understand and remember. In addition, interactive

activities such as vocabulary matching, guided discussions, and task-based learning encouraged students to participate more actively during classroom activities.

The findings also suggest that several aspects of vocabulary mastery improved after the treatment. Students appeared to improve in recognizing vocabulary, understanding word meanings, recalling vocabulary items, and using vocabulary in context. The repeated exposure to vocabulary through interactive posters helped students strengthen their vocabulary retention and comprehension.

However, although most students demonstrated improvement after the treatment, the improvement was not entirely equal among all students. Some students still experienced difficulties in understanding unfamiliar vocabulary and applying words appropriately in context. Differences in students' motivation, participation, and vocabulary background knowledge may have influenced the level of improvement achieved by each student.

To determine whether the improvement in students' vocabulary mastery was statistically significant, a Paired Sample T-Test was conducted using SPSS. The test was used to compare students' mean scores before and after the treatment. Prior to conducting the hypothesis test, the data were checked to ensure that they met the assumptions required for parametric analysis.

The results of the inferential statistical analysis are presented in Table 4.2.

Table 4.2 Paired Sample T-Test Results

Description	Value
Mean Pre-Test	80.71
Mean Post-Test	86.29
Mean Difference	+5.58
Sig. (2-tailed)	< 0.05
Conclusion	Significant effect

Based on Table 4.2, the significance value (Sig. 2-tailed) obtained from the Paired Sample T-Test was lower than 0.05. This result indicates that there was a statistically significant difference between the pre-test and post-test scores. Therefore, the improvement in students' vocabulary mastery after the implementation of visual-interactive materials was statistically significant.

Table 4.3 Additional Statistical Analysis	
Description	Value
t-value	2.43
Degrees of Freedom (df)	34
95% Confidence Interval	0.92 – 10.22
Effect Size (Cohen's d)	0.41
Effect Interpretation	Moderate Effect

Based on Table 4.3, the paired sample t-test analysis showed a t-value of 2.43 with 34 degrees of freedom ($df = 34$). The 95% confidence interval ranged from 0.92 to 10.22, indicating that the improvement in students' vocabulary scores was statistically reliable. In addition, the effect size analysis showed a Cohen's d value of 0.41, which indicates a moderate effect of interactive poster media on students' vocabulary mastery. These findings strengthen the evidence that the implementation of interactive visual media contributed positively to students' vocabulary improvement.

The statistical findings indicate that the use of interactive visual media contributed positively to students' vocabulary learning outcomes. The improvement in students' scores suggests that interactive posters were effective in helping students understand, remember, and apply vocabulary during learning activities. This finding is consistent with theories of multimedia learning, which explain that combining visual and verbal information can improve comprehension and memory retention.

Furthermore, the implementation of interactive poster media appeared to increase students' classroom participation. During the treatment sessions, students became more active in discussing vocabulary, identifying word meanings, matching vocabulary with pictures, and completing interactive tasks. Compared to conventional vocabulary learning methods that rely heavily on memorization, the use of interactive posters created a more engaging and student-centered learning environment.

However, despite the positive findings, the improvement among students was not entirely equal. Some students demonstrated greater improvement than others due to differences in learning motivation, vocabulary background knowledge, and classroom participation. Several students still experienced difficulties in understanding unfamiliar vocabulary and using words appropriately in context. These findings indicate that although interactive visual media can improve vocabulary mastery, additional instructional support may still be needed for students with lower vocabulary proficiency.

Hypothesis Testing

The hypothesis testing in this study was conducted to determine whether the use of interactive visual media significantly affected students' vocabulary mastery. The hypotheses of this study were formulated as follows:

- H0: There is no significant effect of using visual-interactive materials on students' vocabulary mastery.
- H1: There is a significant effect of using poster-based instruction on students' vocabulary mastery.

The results of the hypothesis testing are presented in Table 4.3.

Table 4.4 Hypothesis Testing	
Hypothesis	Decision
H0: There is no effect	Rejected
H1: There is an effect	Accepted

Based on Table 4.3, the significance value obtained from the Paired Sample T-Test was lower than 0.05. Therefore, H0 was rejected and H1 was accepted. It can be concluded that the use of interactive visual media had a significant effect on students' vocabulary mastery.

Overall, the findings of this study demonstrate that interactive poster media can be considered an effective learning medium for improving students' English vocabulary mastery. The combination of visual and interactive elements supported students' engagement, participation, and vocabulary understanding during the learning process. However, the improvement in students' vocabulary mastery was not entirely equal among all students. While most students showed significant progress after the treatment, several students still experienced difficulties in understanding unfamiliar vocabulary and applying words appropriately in context.

Approximately three to four students appeared less active during classroom activities and required additional guidance to fully understand the learning materials. Differences in learning motivation, participation, and vocabulary background knowledge may have influenced the level of improvement achieved by each student. These findings also support previous studies indicating that interactive and multimedia-based learning media positively influence students' vocabulary acquisition and classroom engagement.

4. Discussion

The findings of this study demonstrate that the use of interactive poster media significantly improved students' vocabulary mastery. The statistical results showed an increase in the mean score from 80.71 in the pre-test to 86.29 in the post-test, indicating that students achieved better vocabulary performance after the implementation of interactive visual media during the learning process. These

findings suggest that the integration of visual and interactive elements in vocabulary instruction can positively support students' vocabulary acquisition, engagement, and classroom participation.

The findings of this study are consistent with previous studies regarding the effectiveness of poster-based instruction in vocabulary learning. Dhia Alsalihi (2020) concluded that teaching vocabulary using posters was more effective than teaching vocabulary without posters. Similarly, Mabel et al. (2025) found that the use of interactive visual media significantly improved students' vocabulary achievement.

However, this study extends previous findings by focusing specifically on vocational high school students and integrating interactive elements such as guided tasks, classroom discussion, and contextual vocabulary activities into poster-based learning. This indicates that interactive poster-based instruction may be particularly relevant for vocational school learners who require more engaging and practical learning experiences.

The improvement in students' vocabulary mastery can also be explained through Cognitive Theory of Multimedia Learning proposed by Munfaridah et al. (2021). This theory explains that students learn more effectively when information is presented through both verbal and visual representations. In this study, students learned vocabulary through images, keywords, colors, and contextual examples presented in interactive posters. The combination of visual and textual information helped students process vocabulary more efficiently and improved their comprehension and memory retention. As a result, students were able to recognize and remember vocabulary more easily during learning activities.

In addition, the findings of this study are also supported by Dual Coding Theory proposed by Mir et al. (2023), which states that information is processed through verbal and visual cognitive channels simultaneously. The integration of words and images in poster-based instruction enabled students to associate vocabulary items with visual representations, strengthening their ability to recall vocabulary. This may explain why students demonstrated improvement in vocabulary recognition, understanding of word meanings, and contextual vocabulary usage after the treatment.

Furthermore, the findings are closely related to Cognitive Engagement Theory and Constructivist Learning Theory, which emphasize the importance of active participation during the learning process. During the implementation of interactive visual materials, students were not only observing information passively but were also involved in vocabulary discussions, matching activities, guided tasks, and collaborative learning activities. These activities encouraged students to participate actively and interact with learning materials more meaningfully. Increased cognitive engagement during classroom activities may have contributed to the improvement in students' vocabulary mastery.

One of the strongest pedagogical findings of this study is that visual and interactive elements successfully increased students' classroom engagement. Compared to conventional vocabulary learning methods that often rely on memorization and translation, interactive visual instruction created a more interesting and student-centered learning atmosphere. Students appeared more motivated to participate during lessons because the vocabulary materials were presented in visually attractive and interactive forms. This finding supports the idea that engaging instructional media can reduce students' boredom and encourage more active learning participation.

The implementation of interactive posters also provided several practical advantages in classroom instruction. The use of images, colors, symbols, and concise explanations helped students understand vocabulary more clearly and efficiently. In addition, the integration of simple interactive activities such as vocabulary matching, contextual guessing, discussion tasks, and QR-code-based activities increased students' opportunities to practice vocabulary actively. Collaborative activities conducted during the learning process also encouraged peer interaction and discussion, allowing students to learn vocabulary in more meaningful social contexts.

Despite the positive findings, this study also identified several limitations and challenges during the implementation process. Not all students demonstrated equal improvement in vocabulary mastery. Some students still experienced difficulties in understanding unfamiliar vocabulary and applying words appropriately in context. Differences in students' motivation, vocabulary background knowledge, and learning participation may have influenced the level of improvement achieved by each student.

In addition, the implementation of interactive visual materials required sufficient classroom preparation and supporting facilities. Teachers needed adequate time to design attractive posters, prepare vocabulary tasks, and organize classroom activities effectively. The use of digital elements such as QR codes also depended on students' access to mobile devices and internet connectivity, which may become challenges in certain classroom situations. Furthermore, visually rich learning materials may potentially distract students if the design is overly complex or contains excessive information. Therefore, teachers need to design poster-based instruction carefully to maintain students' focus on the learning objectives.

This study also contributes pedagogically by providing practical guidance for vocabulary instruction using poster-based learning. Effective interactive posters should contain clear vocabulary targets, attractive visual design, concise explanations, contextual examples, and interactive activities that encourage student participation. Teachers may integrate collaborative learning activities such as group discussions, vocabulary games, matching tasks, and digital exploration through QR codes to maximize students' engagement during the learning process.

In addition, poster design should remain simple, visually balanced, and relevant to students' learning needs to avoid cognitive overload. Overall, the findings of this study indicate that interactive visual media can serve as an effective alternative learning medium for improving students' English vocabulary mastery, particularly for vocational high school students. The combination of visual representation, interactive activities, and active student engagement contributed positively to vocabulary learning outcomes. Therefore, the implementation of interactive poster-based instruction may provide meaningful benefits for English language teaching, especially in creating more engaging, student-centered, and effective vocabulary learning experiences.

5. Conclusion

This study concludes that the use of interactive posters is effective in improving students' English vocabulary mastery. The findings show that there is a significant improvement in students' vocabulary achievement after the implementation of interactive poster media. This indicates that the integration of visual elements and interactive features can support students in understanding and retaining vocabulary more effectively.

In relation to the research problem, the results confirm that the use of interactive posters significantly enhances students' vocabulary mastery. This suggests that interactive and visually engaging learning media can overcome the limitations of traditional teaching methods, which are often less motivating and less effective in vocabulary learning.

Furthermore, interactive posters not only help students associate words with visual representations but also encourage active participation during the learning process. This leads to increased motivation, engagement, and better learning outcomes.

However, the implementation of poster-based learning also faced several limitations and challenges during the learning process. Not all students responded equally to the use of interactive posters, as several students still experienced difficulties in understanding unfamiliar vocabulary and participating actively during classroom activities.

In addition, the effectiveness of interactive visual media depended on students' learning motivation, classroom participation, and the availability of supporting facilities such as digital devices and internet access. Therefore, teachers need to provide additional guidance and carefully design learning activities to ensure that all students can participate and benefit from the learning process effectively.

Although there are some limitation and challenges of implementing interactive foster, it is recommended that English teachers apply interactive posters as an alternative learning medium to improve students' vocabulary mastery.

In implementing interactive poster-based instruction, teachers are encouraged to pay attention to several important aspects, including:

- poster design, such as visually balanced layouts, attractive images, clear vocabulary targets, concise explanations, and contextual examples;
- digital integration, such as QR codes, short videos, or online vocabulary exercises to increase students' engagement;
- vocabulary task types, such as matching activities, contextual guessing, and vocabulary identification tasks; and
- collaborative activities, such as group discussions and peer interaction to encourage active participation and meaningful vocabulary practice in the classroom.

Future researchers are also encouraged to explore the use of interactive posters in different contexts, subjects, or educational levels to gain broader insights into their effectiveness.

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