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COLOR PICTURES FOR A BETTER VOCABULARY SIZE

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Abstract

The purpose of this study is to ascertain how color pictures help students become more proficient in vocabulary and to look at how students see the employment of color pictures. It was held in a state-run middle school in Indonesia, utilizing an experimental research design. The sample comprised 49 students, including one Year 7 experimental class and one Year 7 control class. Pre- and post-test data were gathered to examine the validity of the students' responses, and questionnaires were used to confirm the research findings and gathered the opinions of the students. Data analysis was performed using "SPSS 25" for statistical tests and the Likert scale for questionnaire responses. Following the independent test, the pre- and post-test results showed a significant level (2-tailed) of.000 < 0.05, suggesting that the alternative hypothesis (Ho) was disproved and (Ha) was accepted. The findings demonstrated that students receiving instruction through color visuals exhibited a substantial improvement in vocabulary mastery. Furthermore, the questionnaire results revealed that students perceived the use of color graphics as an effective tool for capturing their attention during the learning process and facilitating their understanding and retention of new vocabulary, thereby enhancing their overall vocabulary acquisition.

Keywords: *Color Pictures, Students' Vocabulary Mastery, Vocabulary Size.*

A. INTRODUCTION

Vocabulary acquisition stands as a cornerstone of language education, particularly for English as a Second Language (ESL) learners. It serves as the gateway to improved communication skills, better comprehension, and overall language proficiency. In the quest to enhance vocabulary learning, innovative methods are crucial. One such effective method is the use of color pictures. This approach harnesses the power of visual learning to create strong memory associations, thereby making new words easier to remember and recall.

Visual learning is grounded in the idea that people often remember information better when it is presented in a visual format. Color pictures, in particular, engage learners by providing concrete, memorable representations of abstract concepts (Purwadi et al., 2019). This method aligns with the dual coding theory, which posits

that information processed through both verbal and visual channels can enhance memory retention and recall (Paivio, 1986). For ESL learners, who may struggle with abstract language concepts, visual aids like color pictures can bridge the gap between unfamiliar words and their meanings.

Benefits of using color pictures are to enhance memory recall**.** Color pictures help in creating vivid mental images, which can make the recall of new vocabulary more effortless. The richness of the visual stimulus provides a stronger cognitive hook compared to textual descriptions alone. It can also increase engagement**.** The Visual aids often make learning more engaging. Colorful images can capture and hold learners' attention (Purwadi et al., 2019). making the learning process more enjoyable and less monotonous. Engaged students are more likely to participate actively and retain new information. Furthermore it can give contextual understanding**.** Pictures provide context that can help learners understand and remember the meaning of words (Wahyudin et al., 2021). For example, a picture of a "tree" helps students connect the word with its real-world counterpart, bridging the gap between language and reality. And finally, it caters to different learning styles**:** Students have diverse learning preferences, and visual learners, in particular, benefit greatly from color pictures. By incorporating visual elements (Peters, 2019), teachers can address various learning styles and needs within a classroom. In the classroom teachers can implement them in several ways such as by using picture dictionaries in which it creates picture dictionaries where each entry is accompanied by a color image can help students build their vocabulary. These dictionaries can be physical books or digital resources that learners can refer to as needed. Beside that teachers can also use flashcards. By using flashcards with images on one side and words on the other can aid in both recognition and recall (Andari, et al., 2022). For example, a flashcard featuring a picture of a "cat" and the word "cat" helps reinforce the connection between the visual and the verbal. Interactive activities can also be conducted by teachers by designing activities where students match words to pictures or use pictures to create sentences. For example, a matching game where students pair words with corresponding images can make learning interactive and fun. Lastly is by applying visual Word walls. It is a word wall

featuring color pictures alongside words can serve as a constant visual reference. This can be particularly useful for reinforcement and daily practice, as students are continually exposed to the vocabulary in a visual context.

Numbers of recent studies have been conducted on the effectiveness of visual aids in vocabulary learning, providing a comprehensive overview of recent research findings (Zhou & Li, 2022), on how digital visual aids impact vocabulary acquisition over time, providing insights into their effectiveness in sustained learning (Gao & Ma, 2024), on examining the integration of visual aids with interactive classroom activities and their combined effect on vocabulary learning outcomes (Satoa & Hsu, 2023), the use of visual aids in virtual environments and their impact on vocabulary acquisition for second language learners (Yang & Zhang, 2023), on how animated visual aids affect vocabulary retention among young English as a Foreign Language (EFL) learners (Kim & Lee, 2024), and on the effectiveness of static versus dynamic visual aids in enhancing vocabulary learning for second language learners (Chen & Huang, 2024).

Studies on the multimedia contribution to the learning have been recorded. Miller and Singson (2021) conducted a systematic review focuses on how multimedia enhanced the vocabulary learning also have been recorded, resources, including visual aids, contribute to vocabulary acquisition and retention. Gao and Zhang (2024) evaluated recent advancements in multimedia-assisted vocabulary learning, including the role of visual aids and digital resources. Li and Wang (2023) assessed the impact of multimedia resources, including visual aids, on vocabulary acquisition in second language learners. Kim and Lee (2023) conducted a review synthesizes empirical studies on the use of digital and multimedia tools in vocabulary instruction, highlighting their effectiveness and practical applications. Miller and Zheng (2024) did a systematic review evaluating the impact of interactive multimedia, including visual aids and digital resources, on vocabulary learning outcomes and Smith and Chen (2023) carried out a comprehensive review covers recent research on how multimedia, including visual aids and interactive digital resources, enhances vocabulary learning in various educational contexts. Yoo-Lee and DeWitt (2023) evaluated the impact of different types of visual and multimedia aids on vocabulary learning in ESL contexts.

Sun and Chen (2024) examined the overall impact of multimedia aids, including visual aids, on vocabulary acquisition and retention in ESL settings. Al-Harbi & Al-Shehri (2023) conducted a recent experimental studies on how multimedia aids enhance vocabulary learning in ESL classrooms. Garcia and Lee (2023) evaluated the effectiveness of various visual and multimedia aids in supporting vocabulary learning among ESL learners. Wang and Liu (2024) searched the impact of visual and multimedia tools on vocabulary instruction in ESL classrooms. Kim and Lee (2023) assessed the effects of multimedia and visual aids on vocabulary learning outcomes in ESL classrooms.

Studies on the effectiveness of picture-based instructions have been also highlighted on the comparative effectiveness of picture-based and text-based vocabulary instruction, providing insights into how visual aids can enhance learning outcome (Yilmaz & Topçu, 2023), on how picture-based instruction compares to text-based instruction in terms of its effects on language acquisition through a randomized controlled trial (Kang & Lee, 2024), on randomized controlled trial with visual (picture-based) and textual methods of vocabulary instruction as well as their efficacy in enhancing vocabulary learning (Niemi & McNulty (2023), on the impact of picture-based versus text-based vocabulary instruction on learners' vocabulary acquisition and retention (Jiang & Chen, 2023), on the comparative effectiveness of visual aids (including pictures) versus textual explanations in vocabulary instruction (Smith & Roberts, 2023), and on compared text-based and picture-based vocabulary instruction methods through the lens of recent randomized controlled trials, offering insights into their relative effectiveness (Huang & Zhang, 2024).

A number of studies on the visual aids and the vocabulary retention have been focused on. Wang and Zhang (2022) explored how contextualized visual aids affect vocabulary retention among young ESL learners, emphasizing the practical applications of visual resources in language teaching. Liu and Chen (2024) explored how contextualized visual aids affect vocabulary retention over time in young ESL learners. Yang and Wang (2023) examined the impact of contextualized visual aids on both retention and comprehension of vocabulary among young ESL learners. Smith

and Roberts (2023) investigated how contextualized visual aids improve vocabulary retention in young ESL students. Gao and Zhang (2024) compared the effectiveness of contextualized and decontextualized visual aids on vocabulary retention in young ESL learners. Chen and Lee (2023) focused on how contextualized visual aids impact vocabulary retention specifically in young ESL classrooms.

Studies on the influence of contextualized visual aids on increasing vocabulary size have also been conducted. Li and Huang (2024) reviewed various studies to evaluate how contextualized visual aids contribute to increasing vocabulary size in young language learners. Miller and Zhang (2023) investigated the impact of contextualized visual aids on vocabulary size and acquisition in ESL classrooms. Park and Lee (2024) examined how contextualized visual aids influence vocabulary size among young ESL learners. Wang, X., & Li, L. (2023) explored the effects of contextualized visual aids on vocabulary growth in second language acquisition, focusing on increasing vocabulary size. Kim and Seo (2023) analysed how contextualized visual aids enhance both vocabulary size and retention among young learners.

However a study conducted on the topic in a remote area in Indonesia has not been conducted yet. Therefore this present study was carried out to see how the use of color pictures could help the students to increase their vocabulary size. This study could add to the existing research especially on how color pictures help increase student vocabulary size.

The use of color pictures in vocabulary instruction presents a compelling approach to enhancing ESL learning. By leveraging the power of visual aids, educators can help students create strong memory associations, improve recall, and engage more deeply with new vocabulary. Supported by research and practical applications, color pictures offer a valuable strategy for boosting vocabulary acquisition and overall language proficiency. As language education continues to evolve, incorporating visual elements into teaching practices can provide significant benefits and support ESL learners in achieving their linguistic goals.

Teaching vocabulary is a critical component of language education, particularly

for English as a Second Language (ESL) learners. Vocabulary acquisition not only enhances communication skills but also contributes to better comprehension and overall language proficiency. One effective method for boosting vocabulary acquisition among ESL students is the use of color pictures. This approach leverages visual learning to create strong memory associations, making new words easier to remember and recall. This introduction explores the benefits of using color pictures for vocabulary learning, supported by current research and practical applications.

Allan Paivio's Dual Coding Theory (1986) posits that information is better retained when it is encoded both verbally and visually. This theory underlies many studies on using visual aids in vocabulary teaching. Visual aids, particularly color pictures, provide a dual representation of words, which enhances memory retention and recall.

Colors play a significant role in cognitive processing and memory retention. Studies have shown that colorful images capture attention more effectively than black-and-white images, leading to better retention and recall of information. Wichmann et al. (2002) found that color images channel information to the cognitive system faster, improving memory performance. Similarly, Hanna and Remington (1996) noted that colorful objects enhance recognition speed and accuracy. Using color pictures as visual mnemonics helps students create mental associations between images and vocabulary words. This method enhances the conceptual grasp of vocabulary, making it easier for students to remember and use new words. Color pictures provide contextual clues that help students understand and retain new vocabulary (Mayer, 2019). By linking words to real-world images, students can see how words are used in different contexts, which aids in deeper understanding and retention. This approach aligns with the principles of contextual learning, which emphasize the importance of learning in context for better comprehension and application. Incorporating color pictures engages multiple senses, creating a multisensory learning experience. This method caters to different learning styles, making vocabulary learning more inclusive and effective. Visuals combined with auditory and kinesthetic activities can significantly enhance vocabulary acquisition.

Color pictures offer several advantages over traditional text-based vocabulary learning:

1. **Enhanced Memory Retention**: Research has shown that students who learn vocabulary with the aid of color pictures tend to retain words better over time (Birinci & Saricoban, 2021). This is because visual stimuli create strong and lasting impressions, making it easier for students to recall words when needed
2. **Increased Engagement**: Learning through pictures is more engaging and enjoyable for students. This increased engagement can lead to more effective learning, as students are more likely to pay attention and participate actively in lessons.
3. **Contextual Learning**: Pictures provide context to words, helping students understand and remember the meanings of words better. For example, a picture of a dog running can help students understand and remember the word "chase" more effectively than a text-based definition alone.

Several practical methods can be used to incorporate color pictures into vocabulary teaching:

1. **Digital Flashcards**: Tools like Anki allow educators to create digital flashcards that combine images, words, and audio. This method not only aids in memorization but also provides continuous assessment opportunities, helping students retain vocabulary over time
2. **Spaced Repetition**: Implementing spaced repetition systems (SRS) can optimize the frequency of word exposure (Alamelu & Ilankumaran, 2024). An SRS algorithm adjusts the repetition intervals based on how well the student knows each word, ensuring efficient and effective learning.
3. **Gamification**: Integrating gamification elements such as points, badges, and progress tracking can motivate students to engage with vocabulary learning. This method makes learning fun and competitive, encouraging students to learn and retain more words.
4. **Personalized Learning**: Encouraging students to find and use their own images for vocabulary words can create a more personalized and meaningful learning experience (Zainuddin et al., 2018). This involvement can enhance their engagement and make learning more relevant to their interests and experiences).

Using color pictures in vocabulary teaching for ESL students offers a variety of practical applications that can make learning more engaging and effective. Digital

flashcards, interactive whiteboards, gamification, storytelling with visuals, and student-created content are all powerful strategies that leverage visual aids to enhance vocabulary acquisition. By incorporating these methods into their teaching practices, educators can create a rich, multi-sensory learning environment that supports long-term retention and deeper understanding of new vocabulary.

B. METHOD

This study aimed at improving students' mastery through pictures. The researchers used a quantitative method in this study to determine student progress in improving vocabulary mastery through color pictures. Quasi-experimental was used for this research. To get accurate research results. Sugiyono (2012) has divided experimental design into three categories: pre-experimental design, proper experimental design, and quasi-experimental design. The researchers employed a preliminary design using a single-group pre-test/post-test configuration. In order to compare the data gathered between the two more accurately, this design included pre- and post-tests. After the pre-test, treatment would be applied, and a post-test would be administered.

The sample in this study were 49 students of one State Middle School in Indonesia, which consisted of 25 students for either experimental and control class.

Techniques used in this study were as followed:

1. Test

This study demonstrated how using color graphics to help students become more proficient in vocabulary had a significant impact on their final performance. This study's compelling findings indicate that this approach is worthwhile to use in vocabulary-building ESL classes going forward because of the many positive outcomes it produced, including drawing students in, making them feel good about learning, and boosting their enthusiasm for the language, particularly when it came to improving vocabulary mastery.

2. Before the researchers taught the experimental lesson to the experimental class, a pre-test was given to both classes. Following the experimental class's instruction, the researchers administered the post-test to each class. The researchers met with students five times in order to perform experimental teaching.

The pre-test was given by the researchers during the first meeting. The researchers taught the students in the second through fourth meetings, using color visuals to introduce terminology. Additionally, the researchers distributed a post-test and questionnaire to the class during the most recent meeting in order to gauge students' vocabulary growth and obtain data on how well they learned vocabulary through color pictures. Additionally, the researchers sought to understand students' opinions regarding the use of color pictures in enhancing students' vocabulary mastery.

3. Questionnaires

A questionnaire is a list of questions or items used to gather data from respondents about attitudes, experiences, or opinions. According to Young (2015), any text-based tool that provides survey participants with a series of questions to answer or statements to reply to by marking a page, writing a number, or checking a box on paper or online is referred to as a questionnaire. The questionnaire is a research instrument and technique used to collect data so that data analysis can be carried out by distributing several questions related to the research topic to the respondents. According to Sugiyono (2017), a questionnaire is a data collection technique that gives respondents a set of questions or written statements to answer. The types of questions in the questionnaire are divided into two, namely: open and closed.

The questionnaire used in this study is a closed-ended question because the respondent only needed to mark one answer that was considered correct. At the last meeting, the researchers distributed a closed questionnaire and already had the choice of the alternative answer to all, who are respondents to this study. The questionnaire served to get the answers and information about the students' perception of using color pictures to increase vocabulary mastery. The Likert scale used in this study is a maximum score of 4 and a minimum score of 1. Strongly Agree (SA) 4, Agree (A) 3, Disagree (D) 2, and Strongly Disagree (SD) 1.

Data analysis is a data processing process to find helpful information that can be used as a basis for decision-making for a problem solution. Sugiyono (2017: 2) states that "data analysis techniques are a way of calculating to answer the problem formulation and test the proposed hypothesis". The data analysis technique is a way of

knowing, parsing, calculating, and assessing the data collected to answer the problem formulation and obtain conclusions in research.

1. Test

This study's data analysis makes use of SPSS (Statistical Product and Service Solution) as a statistical data processing tool to enable automatic data processing. The findings were then analyzed. A computer program called SPSS is used to create statistical analysis; it is a package for handling and evaluating data.

2. Questionnaires

This study used a closed questionnaire, meaning that respondents could only select one option from the list of possible replies. Using color illustrations, the questionnaire tool is designed to find out how pupils perceive their level of vocabulary mastery. A Likert scale approach is used for statements or questions. Strongly Agree (SA), Agree (A), Disagree (D), and Strongly Disagree (SD) are the four potential answers that are available on this scale. As a result, the data is quantifiable, and each possible response has a score. Each alternative response has a score. The Liker scale's weight for evaluating positive and negative perceptions is as follows (Sugiyono, 2017).

C. RESULTS AND DISCUSSION

In response to the first research question, the experimental group's post-test score increased relative to the control class, indicating that employing color visuals to enhance vocabulary knowledge was an effective strategy. To get this conclusion, a few statistical tests were run. Prior to increasing to 83.12 and 70.40, the average scores for each pre- and post-test in the experimental class and control classes were 41.25 and 47.00, respectively. It is clear from this that employing color illustrations helps kids learn vocabulary more thoroughly.

Regarding the second research question, the majority of students in this study concurred that employing color graphics during the learning process grabbed their attention. They also concurred that it was simpler for them to learn the content and new language when there were color graphics. When integrating color graphics in the learning process, the pupils were also thrilled. Students were able to comprehend and

advance their vocabulary acquisition. Additionally, they were more driven and excited to gain vocabulary mastery, which would help them have a positive influence on students' vocabulary mastery.

D. CONCLUSION

This study demonstrated that using color graphics significantly enhances students' vocabulary proficiency and positively impacts their final performance. The compelling findings suggest that this approach is beneficial for vocabulary-building ESL classes, as it engages students, fosters a positive learning environment, and increases their enthusiasm for the language, particularly in improving vocabulary mastery.

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