

Seeing Beyond Words: An Investigation of Students' Opinions on Interactive Murals for Vocabulary Teaching

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Abstract

This study investigates the ways in which students view interactive murals as part of the vocabulary teaching and learning process in the classroom. A qualitative methodology and survey were administered to 22 elementary school students. The three components of the questionnaire were as follows: the pedagogical content of the feature of interactive mural, and motivation in using the murals. The questionnaire was administered to a research sample of 22 students who were specifically selected for the study. With a coefficient of scalability (CS) of at least 0.60 and a coefficient of reproducibility (CR) of at least 0.90, the data were deemed to meet the unidimensional and cumulative features after being analyzed using the Guttman scale. The results revealed that the mean CS score was 0.91, indicating that the coefficients of scalability were deemed good, and the mean CR score from the three indicators was 0.90, indicating that the CR results were valid. Considering the mean recapitulation rate among the students was 16,33%, the students' perception was positive. The results, which showed that students' perceptions of the interactive mural's use as a technology in the classroom were positively correlated with their use of learning resources. It was possible for the students to acquire new teaching tools, such as interactive murals. Murals have been suggested as a potentially engaging substitute for traditional classroom media, particularly when teaching vocabulary. In summary, by documenting the diverse perspectives, this research not only sheds light on the perceived advantages of interactive murals but also emphasizes how these visual aids can be utilized to create captivating and productive vocabulary learning opportunities. The findings have implications for teachers, curriculum developers, and legislators who want to improve vocabulary instruction in the classrooms by incorporating interactive and visually appealing elements of murals.

Keywords: beyond words, investigating, interactive, murals, vocabulary

1. Introduction

Child development and growth in the early stages of schooling are based on pedagogy is a successful future that is often predicted by a happy childhood, according to numerous experts. Accordingly, in order to achieve the best possible growth and development, a favorable environment and conditions must be created to both stimulate and educate children according to their needs and interests (Sujiono, 2009). Children exhibit a high degree of curiosity about new things, necessitating the use of supporting media to pique their interest in new subjects (Peacock, 2021). They require a range of engaging educational resources to help them become less bored because they are both highly active and easily bored (Babiarz & Kraj, 2019).

In the field of teaching foreign languages, language acquisition particularly vocabulary growth is essential (Sun et al., 2022). Because interactive and engaging learning environments are often lacking in traditional teaching methods, teachers are increasingly using cutting-edge technologies to improve language learning opportunities (Derakhshan, A., 2021).

In addition to being pertinent to the goals of learning foreign language, the instructional media that is chosen must also be appropriate for the students who will be using the materials (Muvango, Indoshi, & Okwara, 2019). This is critical because the goals that the materials are intended to help students and teachers achieve should align with one another. An educator can choose materials that best suit the needs, interests, and aspirations of learners by considering their attributes and characteristics, including age, maturity level, ability, aptitude, and capability (Apsari, Lisdawati, & Mulyani, 2020). Learning activities can be made simple and meaningful when the resources are appropriate for the students. This requirement might include media that are pertinent to the students to make teaching and learning activities simple and fulfilling.

Different media formats can be used to teach English. Soliu and Elisha (2018) classified instructional media into three categories: visual, audio, and audiovisual aids. First, audio aids are educational materials that allow students to hear but not see. Examples of these include radio and tape recorder programs, which limit students' access to visual learning. Second, visual aids, such as posters, charts, maps, still photos, and murals, are educational materials that are visible but do not elicit sound. Third, audio visual aids are educational media that combine sound and visuals, such as computers and televisions. Visual media, such as pictures or parables, play a crucial role in the

teaching and learning process because they help students understand concepts more quickly and improve their memory. According to Djamarah and Zain (2006), visual media can spark students' interest and help them connect what they are learning with real-world applications.

Pertinent to the aforementioned theories and research findings, the media used in this study are visual media, which we call interactive murals. These interactive murals were one of the research products produced by the researchers. Many results and theories about murals as a medium in teaching and learning. According to Endriawan and Maulana (2017), murals are a type of visual media that can be used to enhance students' learning and have a significant impact on viewers. The community of Kampung Pelangi, Jodipan Malang, has greatly benefited from murals, as demonstrated by Laksana and Adiwibawa (2018). As an interior element, murals produce walls that serve as both a functional barrier and a means of enhancing the space's visual appeal (Wicandra, 2005).

Murals can be used as educational tools in classrooms because they are now representative and communicative in educational settings, providing students with entertainment value in addition to a lesson (Suherman, Giyanti, & Anggraeni, 2019). Early childhood educational institutions commonly use murals to cover their walls with illustrations that serve as educational tools (Althaf & Aditya, 2017).

Murals represent a type of artwork in which large paintings occupy walls, ceilings, and other flat surfaces, showcasing the elements of the space. According to Thamrin and Noviana (2020), murals can serve as educational media if they are filled with moral lessons and educational values. Furthermore, murals can serve as place markers or signs (Saraddin and Ramadani, 2018). As demonstrated by Sapentri (2017), murals can be used as a teaching tool to foster character education in classrooms and enhance the aesthetics of the surrounding community. Paintings on walls are called murals; however, they are not the same as paintings. For a work to be considered a mural, certain conditions must be met. The development of murals is not the same as that of a painting, even though murals are large paintings on walls. In terms of design (having aesthetic elements), age and upkeep, and comfort of observation, a work must meet specific requirements to be classified as a mural related to architecture or building. You can create murals outside and inside the school. Thus, research on interactive murals in English instruction is required. This work will bridge a major gap in the literature by providing fresh insights into the as-yet-unexplored field of mural media for language learning during this critical developmental stage of school-age students.

By tackling these research gaps, this study will offer educators and curriculum developers useful implications and insightful information about students' viewpoints and experiences. Furthermore, the objective of the research is to deepen our understanding of the function of interactive mural media in English instruction for fifth graders. The research findings will shape language education in the future, with a focus on creative and practical technology. In contrast to a previous study, this study investigates the potential of employing interactive murals as a tool for interactive learning to help students learn English vocabularies. This study poses the following research questions: (i) What is the student's opinion of using interactive murals to enhance their English vocabulary? (ii) How do the students perceive their needs for English vocabulary?

2. Method

This study adopted a qualitative research design. The classroom's interactive English mural focuses on the viewpoints of the students. The students' perspectives on using murals in the classroom were the focus of this study. The description of a qualitative research design by Cresswell and Guetterman (2019), which examines a phenomenon from the viewpoints of participants, was adopted in this study. To enhance our understanding of the students' perspective regarding the use of murals in English classrooms, the researchers used a phenomenological research design. Twenty-two grade five students from SD Santo Tarcisius Dumai was chosen due to these students were elected purposively by English teachers in this school that including 12 males and 10 females and this class was suitable to have a trial murals. The purposive sampling method was used in this activity because of the limited number of murals produced.

To determine the students' feelings about using murals, they were given a survey. Three perspectives could be used to examine students' perceptions: the pedagogical content of using murals, the students' enthusiasm, and the use of the murals. To determine whether the students are making the most of the mural's features, the first element comprises five questions. Five enthusiasm statements from students about what interests them when using the mural are included in the second element. The third component is the educational material that the mural contains to help students expand their vocabulary in English. An assessment tool in the shape of the Guttman scale, on which the participants marked "YES" or "NO." A score of 1 is designated if the students answered "YES" and 0 if they responded "NO." The Guttman scale represented the characteristics of students' opinion in simple way.

The respondent score was determined by the number of statements that were approved; thus, the higher the score, the higher the respondent's opinion of the behavior; in contrast, the lower the score, the lower the respondent's opinion of using murals. When determining the data, the coefficients of reproducibility (CR) and scalability (CS) must be determined to ascertain whether the statements can be arranged according to the tolerance level. According to Yulianto (2019), CR showed that determining a student's reaction pattern's extent requires using their overall score. The Guttman scale was deemed to meet the fundamental and cumulative features if it had a CS of at least 0.60 and a CR of at least 0.90 (Yulianto, 2019). Because of the dichotomous nature of the questionnaire, CR and CR were then tested for data adequacy using the Guttman scale for validity and the Kuder-Richardson 21 (KR 21) formula for reliability.

CS and CR were computed using the Guttman scale calculation validity test. The percentage of pure responses that can be replicated from the scale score used to summarize it is what the CR indicates; thus, CR indicates how reliable the measurement is with the scale in use. A CS of >0.90 is the acceptance criterion. To determine whether deviations from the reproducibility scale remain within acceptable

bounds, CS can be used. A CS of >0.60 is the acceptance criterion.

3. Results

3.1 The Students' Opinion on the Use of Interactive Murals to Enhance Their English Vocabulary

The students were provided with a series of questionnaires to complete after being introduced to the use of interactive murals in English instruction. Table 1 displays the questionnaire results.

Table 1. Students' perceptions on mural features

No	Statement	YES	NO
1	It is simple to operate the interactive mural.	18 (81.82%)	4 (18.18%)
2	The interactive mural has visual instructions.	19 (86.36%)	3 (13.64%)
3	The interactive mural includes voice.	17 (72.72%)	5 (22.73%)
4	The interactive mural has clear images.	20 (90.91%)	2 (9.09%)
5	The interactive mural has color detection	16 (72.73%)	6 (27.27%)
Mean		18 (81.82%)	4 (18.18%)

Table 1 demonstrates that the students' perceptions of the benefits of using interactive murals were positive. Most students found the first use of the interactive murals to be beneficial, as indicated by 18 students responding "YES." It was feasible for students to use the interactive murals to their fullest potential because a sizable portion of them (81.82%) chose "YES" for indicator 1. The analysis of the students' answers revealed that they viewed the first indicator as positive feedback.

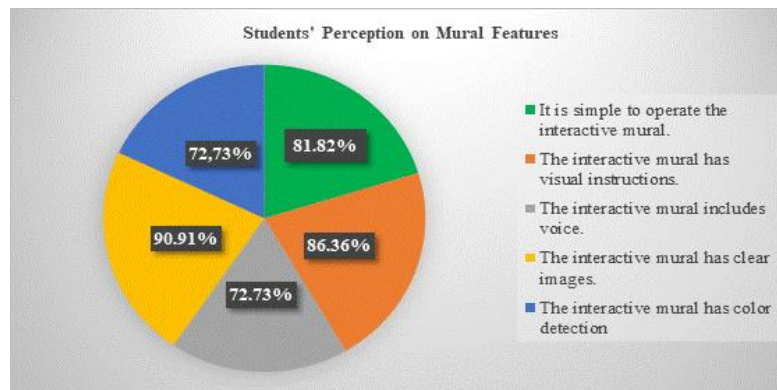


Figure 1. Mean score of the interactive features of the murals

Figure 1 shows the average score for every statement in the interactive mural features. For the first component, the statement "the interactive mural has clear images" obtained the highest score (20 students (90.91%) answered "YES"), where the students agreed with the murals displayed.

The results below show that the second element had a moderate mean score. The students' interest responses were tallied, and Table 2 shows the average and percentage scores.

Table 2. Students' Perceptions of Interest in using the interactive mural

No	Statement	YES	NO
1	I think I know how to operate an interactive mural.	13 (59.09%)	9 (40.9%)
2	I enjoy playing with the interactive mural.	21 (95.45%)	1 (4.5%)
3	I can hear the voice from the interactive mural because the speech is audible.	18 (81.82%)	4 (18.18%)
4	I can differentiate the colors on the images.	14 (63.64%)	8 (36.36%)
5	I adore the interactive mural's color.	15 (68.18%)	7 (31.82%)
Mean		16.2 (73.64%)	5.8 (26.36%)

Table 2 shows that the students' mean response scores are close to 16.2. The students' perceptions of their interest in using interactive murals served as the second indicator. Among the three indicators, the second component had the lowest score, and only 73.64% of the students responded "YES." This indicates that the students' motivation for using interactive murals was positive but only moderate.

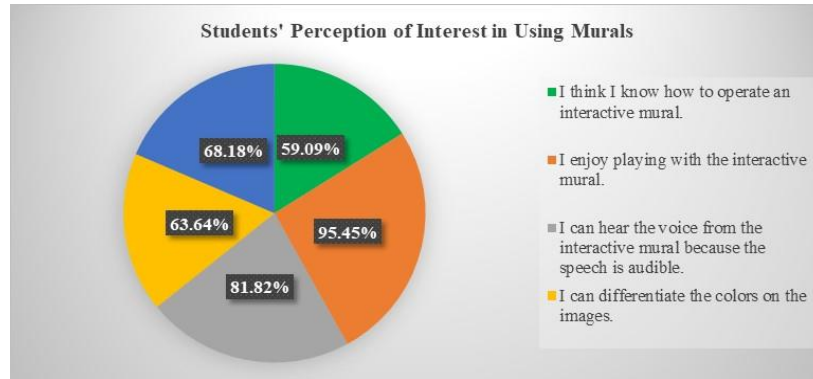


Figure 2. Percentage of Students' interests

Figure 2 shows that the statement “I think I know how to operate the interactive mural” had the lowest score of 59.09%, whereas the statement “I enjoy playing with the interactive mural” had the highest score of 95.45%. The analysis of the second component of students’ interest revealed that the students’ interest in using interactive murals was positive.

Table 3. Students’ perceptions on the pedagogical use of interactive murals

No	Statement	YES	NO
1	The interactive mural presents vocabulary variation.	11 (50.00%)	11 (50.00%)
2	The interactive mural assists me in learning new vocabulary.	13 (59.09%)	9 (40.91%)
3	The interactive mural pronounces words clearly.	19 (86.36%)	3 (13.64%)
4	The interactive mural assists me with the different images to be learned.	13 (59.09%)	9 (40.91%)
5	My vocabulary improves by using an interactive mural.	18 (81.82%)	4 (18.18%)
Mean		14.8 (67.27%)	7.2 (32.73%)

Table 3 shows that the pedagogical component had the lowest mean score among others. The mean score was 14.8; this indicates that the students still provided a positive response toward the use of interactive murals in their English subject. Based on calculation analysis of these pedagogical components, the students had a positive perception that the interactive murals provided pedagogic content, although the result was less significant.

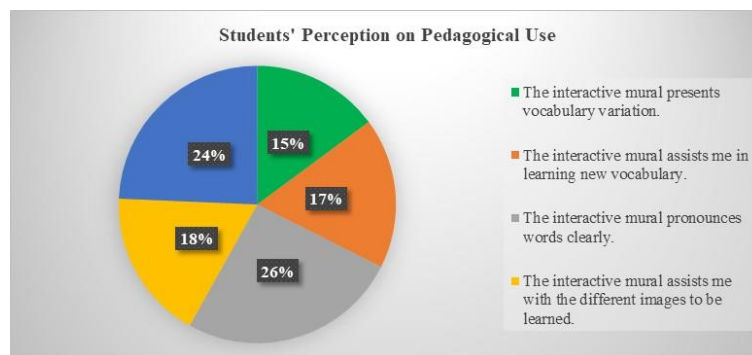


Figure 3. Percentage of pedagogical perception

In answering the second research question, we described the results as follows:

The questionnaire for the students’ needs was tested for data adequacy with a validity test (the Guttman scale) and a reliability test (the KR 21 formula) because the type of questionnaire is dichotomous. The results of the recapitulation of the questionnaire component showed that 1 indicates the answer “YES” and 0 indicates the answer “NO.” Their responses indicated that the CR was 0.9091; therefore, the CR of this questionnaire is considered good (valid) because 78% of the students prefer to keep up with the latest learning trends. However, most students (87%) found it difficult to understand the sound produced by the interactive murals, and their teachers did not use interactive murals frequently. The reason for this was because variations in the educational media should be applied. Most students (88%) also believe that learning with interactive media will improve their acquisition of English vocabularies. The first four answers show how important it is for the students to learn English via interactive media: Features of interactive murals: 81% of the students required interactive media to learn English. Their urgent need for English interactive media was supported by the answers to the other questionnaire items: 88% of the students needed vocabulary that was relevant to their level of education, interactive learning materials, and visually appealing learning materials.

4. Discussion

This study identified the impact of interactive murals on students' perceptions of vocabulary learning, the challenges and limitations associated with implementing interactive murals in language classrooms, and how we addressed these problems. The findings showed that the students had a positive response with a significant effect on the use of interactive murals in learning vocabulary. Interactive murals are alternative interactive media to be used outside the classroom for students to study the English language. Interactive murals can offer a multisensory learning experience by incorporating visual, auditory, and sometimes even tactile elements, as Davidson (2019) noted. Davidson (2019) asserted that different age groups of children can use the setting created for multisensory activities. Each environment, for instance, should be planned to accommodate visual, aural, and kinesthetic inputs, and there should be a space that promotes question-asking among children.

The findings also show that interactive murals are the sole visual medium that can be used to energize audience members. Murals are relatively large images or painted pictures placed over a media surface that are very effective at creating images using illustrative text (Gralin śka-Toborek, 2019; Adiwibawa, 2018). This can help young learners with different learning styles better understand and remember vocabulary words, and the frequency of word exposure is important for vocabulary development (Teng, 2020; Komariah et al, 2023).

The findings revealed that the students' cognitive engagement in learning vocabulary through interactive murals agreed with the research by Hancock (2012). The students were provided with an interactive mural to recognize animal names in English when they touched the painting on the head of one of the animal pictures. The system directly processed the touch to play a sound file according to the type of character rubbed. Then, when the students touched a character in the form of a lion image, the lion's sound file played and simultaneously pronounced the name of the animal in question in English. This was similar for other types of animal images.

These activities created multisensory learning experiences that increased the cognitive engagement of the students; this finding was supported by Toth (2019), who stated that sensory exercises that employ one or more senses can assist in tying up brain nerves for young learners. Children's holistic development depends on learning and early exposure to activities involving several senses, which has significant potential both directly and indirectly (Cosentino et al., 2019).

Based on the aforementioned findings, the perception of students after using interactive murals affects the integration of interactive murals into language instruction, which requires proper teacher training. Teachers might need time and support to become proficient in using the technology for educational purposes; moreover, the significant emotional responses to learning vocabulary among students through an interactive mural demonstrated that they were enthusiastic about the process. The responses revealed their feelings about the images on the mural. The responses from the students were encouraging because their learning was facilitated by the interactive mural, which led to engaging lessons. The students' positive responses to emotional engagement in vocabulary learning through an interactive mural can be shown in their emotional responses.

The participants reported that adopting interactive murals as a learning tool was challenging. Furthermore, the participants agreed that interactive murals were useful and entertaining media. They became interested in the interactive mural for various reasons, including the images, sound, and intriguing perspectives. This opinion is supported by a statement made by Suherman (2019) on the same website where Aryanto et al. (2020) stated that interactive murals provide beneficial learning outcomes in the form of motor skills and a sense of accomplishment, whereas static pictures are inferior to cognitive tasks.

Engagement in young learners' behavior can take the form of doing the assigned task, following the rules, or actively participating in school organizations. The researcher discovered that students understood the information she provided via the interactive mural when they actively participated in learning vocabulary using the mural as an interactive medium. The behavior of students was repeating scrub and touching the mural on the images, and then the sound from the mural made the students familiar with the vocabularies produced by interactive media. Repeating drills continuously engage students' behavior. Finally, the activities become habits. According to Akbar et al. (2020), the main areas of behavioral engagement include good behavior and an interest in learning. This is demonstrated by participant comments that mention the benefits of vocabulary acquisition through murals. They all said that the offered information was simpler to understand and that they enjoyed engaging in peer or group discussions about it.

Finally, note that the specifics of the interactive mural may vary depending on the actual technology developed, and the challenges and solutions could differ based on the unique features and functionalities of the mural. This is supported by Qin and Teng (2017), who stated that the quantity and kind of attention or mental effort required to understand an unfamiliar word under various tasks motivate young learners to obtain the most accurate and up-to-date information.

5. Conclusion

The use of interactive murals as vocabulary teaching media holds promise for transforming language education. By integrating art, technology, and interactive elements, interactive murals offer learners an engaging and immersive language learning experience. This research investigated the potential of interactive murals and provided practical recommendations for their implementation, paving the way for more effective and dynamic language learning methods.

Furthermore, teachers must use interactive media as a resource for teaching children vocabulary words. They should also continue to implement interactive learning innovations that meet the demands of technology. Therefore, it is advised that teachers employ interactive

murals to avoid the challenges of presenting conclusive information in a constrained amount of time so that students can learn on their own outside the classroom. Therefore, when providing materials for learning, teachers should consider using interactive murals as learning media. Furthermore, they should develop plans that incorporate advanced technology and facilitate sufficient space within the school.

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Authors contributions

Sri Yuliani was the lead team that responsible for the whole activities of the research and Arie Linarta was responsible for study design and revising the Mural's product. All authors read and approved the final manuscript. We commented that Mural's product was on our team authorship and all authors contributed equally to the study.

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Competing interests

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Data sharing statement

No additional data are available.

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