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A Quasi-Experimental Study on Using Photonary as Strategy in Teaching Vocabulary among Grade 1 Pupils

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***Abstract*: Photonary is a strategy in teaching vocabulary that involves showing pictures to the learners to help them construct and remember the meaning of words. This research used a quantitative quasi-experimental design to measure the effectiveness of the Photonary strategy in teaching vocabulary among grade 1 pupils. It was found that the Photonary strategy that involves using pictures with vocabulary terms is effective in helping the students communicate, understand, and remember the meaning of words. The findings demonstrated that the pupils' scores significantly improved following the implementation of the Photonary strategy. The post-test scores were a lot higher than the pre-test scores, demonstrating that the strategy positively affected the students' vocabulary skills. This validates that incorporating pictures in classroom instruction can increase learning and enhance vocabulary development.**

***Keywords*: Photonary, Strategy, Vocabulary.**

1. Introduction

Acquiring good to high vocabulary skills gives importance to the early learning development of children which is a key to reading comprehension. The spectrum of knowledge in the early years specifically in engaging children with high regard to vocabulary building in augmenting a beneficial strategy has a substantial point throughout their schooling. The researchers in this study proposed Photonary as a strategy in teaching vocabulary among Grade 1 learners in which pictures were shown to the pupils that helped them construct and remember the meaning of unfamiliar words. Furthermore, one research showed the importance of interactive classes by using pictures, games, and songs. The influence of these categories was useful for motivation and engagement throughout the entire class which signifies active learning in the vocabulary learning process. Children tend to develop more of these kinds of strategies in teaching (Permana, 2020).

The problem that the researchers encountered was that Grade 1 pupils can read and comprehend the words even without presenting photos or images. Yet, words were not easily retained in which pupils fail to understand what they read and heard. Moreover, the researchers observed that some teachers relied on a traditional approach to teaching vocabulary, which involved merely translating the words introduced to the pupils. With that remark, the researchers in this study sought to determine the effectiveness of the Photonary strategy in teaching vocabulary among Grade 1 pupils.

Photonary expands pupils' vocabulary in learning more words. When pupils see pictures, they are expected to say words from the pictures and even share their experiences which is good practice for building their vocabulary. Images give vocabulary words life and give pupils a visual to aid memory. The usage of pictures makes the vocabulary tasks more appealing, appropriately shows the original object or thing, and assists in word memorization for the pupils. Hence, making the Photonary strategy as a solution in teaching vocabulary.

According to Nash, H. (2010), poor vocabulary knowledge in children puts them at risk for developing more general language deficiencies and reading comprehension issues, which affect their academic success. The Department of Education (DepEd) in the Philippines considered vocabulary to be an important factor to develop high competency in education. Therefore, the aim of this study is to contribute a timely strategy for teachers to utilize in teaching vocabulary, and to provide an engaging and effective vocabulary instruction for learners.

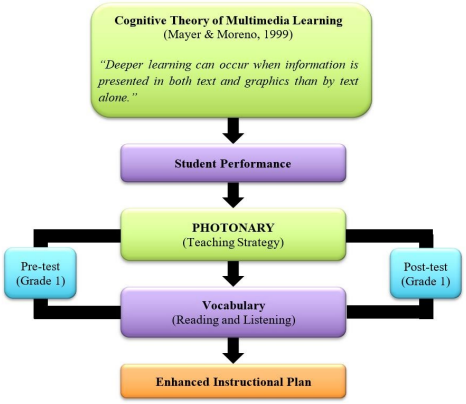

Fig. 1. Schematic presentation of the theoretical and conceptual framework of the study

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Mayer and Moreno's Cognitive Theory of Multimedia Learning claimed that information delivered in both text and images led to deeper learning than text alone. The term "multimedia learning" implied learning that combines pictures and words (University at Buffalo, n.d.). Moreover, the use of images and texts helped activate the prior knowledge acquired or experienced by the pupils wherein they can share more towards the discussion (Wright (1989).

Photonary is a teaching strategy that aims to increase the vocabulary of students. After reading a passage, the teacher assisted the students in finding the meaning of unfamiliar or unusual words encountered. The teacher showed pictures as context cues and provided explanations or examples. Using rich and captivating authentic materials is an effective way to facilitate vocabulary acquisition. Conversation and questions will also enable the pupils to learn and engage with new words.

With the use of pre-test and post-test, the researchers would want to know the performance of the grade 1 pupils in their vocabulary. The aim to know if there is a change of performance before incorporating Photonary as a strategy and incorporating it after will help the researchers in examining how Photonary is effective and beneficial in teaching vocabulary skills among Grade 1 pupils. At the end of the study, researchers generated an enhanced instructional plan incorporating Photonary as a strategy in teaching vocabulary.

2. Methodology

A. Research Design

This research used quantitative quasi-experimental research design to determine the effectiveness of the Photonary Strategy in teaching vocabulary among Grade 1 Pupils. The researchers used pre-test and post-test to determine the vocabulary level of the Grade 1 pupils.

B. Research Respondents

The respondents of this research are Grade 1 pupils enrolled for Academic Year 2022-2023. There is one section in Grade 1 comprising 32 pupils.

C. Research Environment

This study was conducted at an Integrated Laboratory School in Cebu City, Philippines.

D. Research Instruments

The researchers administered an adapted assessment. The pre-test and post-test contain a list of fifteen vocabulary words that need to be defined. The researchers adapted the instrument by changing the number of items and the list of vocabulary words. The assessment form was adapted from the pre-test and post-test by D'Alesio R., Scalia M., Zabel R. (2007) from the thesis entitled: Improving Vocabulary Acquisition with Multisensory Instruction. Furthermore, the researchers made a lesson plan both for pre-test and post-test sessions and utilized one storybook during the pre-test phase.

E. Data Gathering Procedures

A letter of consent was sent to the advisor of the Grade 1 pupils and to the dean of CTE, to ask for approval in conducting the research for the class. The researchers performed a teaching demonstration, they read a story comprising the vocabulary terms that the pupils faced in the pre-test. Then, the pupils first underwent a pre-test to determine their knowledge and understanding of the vocabulary words. After conducting the pre-test, the same procedure was done, however, the difference was that the Photonary Teaching Strategy applied. The Grade 1 pupils took the same test, which was the post-test. The researchers determined if there was a difference in the performance of pupils by compiling, comparing, and evaluating the results of the data gathered by the two tests conducted.

F. Data Analysis

In order to analyze the acquired data, the researchers employed the T-test-Independent Variable, to compare the means of the two different groups. As a result, the average scores of the Pre-test and Post-test that Grade 1 students took were computed, and a t-test independent variable formula used to assess whether there is a significant difference between the two tests.

3. Results and Discussion

The table provides summary statistics for a pre-test and post-test conducted on 32 Grade 1 pupils.

Table 1
Descriptive statistics on the mean difference of pre and post test

	N	Mean	SD	Description
Pre-test	32	4.59	2.34	Did not meet expectations
Post-test	32	10.66	2.79	Satisfactory

The results of the pre-test scores of the pupils are quite low, it does not meet expectations. The pupils got low scores because they were not familiar with the words given and they got confused with other words that sounded the same. As a result, the score of the pre-test is not that great. The grade 1 pupils provided different meanings of the word given and not the expected answer. For example; the word given is "matched," the expected answer is "pair" or "the same," some pupils wrote "boxing matched" and "match is making fire." The researcher has a specific answer since they choose the word based on the story that they have read before conducting the data gathering. In addition, the pupils are not listening attentively while the researchers are discussing in front of them, a few of them are not paying attention to the words that is why they failed to provide the meaning of each word. It is possible that the pupils are not attentive, because they were not exposed to any pictures that are appealing to them which is the reason that they lack motivation to answer. The use of pictures or picture games motivate students in learning vocabulary and can significantly increase the students' achievement in acquiring vocabulary (Rukmini, D., & Sutopo, D. (2013). The result of the pre-test implies that pupils cannot easily understand the word without seeing any pictures or visual aids that can help in identifying what the word means. Students' interest and involvement in the vocabulary learning process are significantly influenced by the use of interactive media, including visuals, games, and music.

Table 2
T-test statistics for the significant difference of pre and post test of the grade 1 pupils

Mean Gain Difference	df	T statistics	Standard Error of Difference	Two-tailed P value
6.07	31	11.0265	0.55	0.0001

Because of this, educators are urged to use interactive technology to help kids increase their vocabulary (Permana, I. G. Y. (2020).

The improvement of the outcomes proves the effectiveness of the Photonary strategy. Based on the post-test result, students achieved higher scores and got a satisfactory remark because they learned by listening and looking at the pictures to understand unfamiliar words better. Adding pictures is more comprehensible compared to solely written or oral explanations. With the aid of visual images, it becomes easier for the children to remember or recall the meaning of each word. The vocabulary word presented with pictures helped the pupils focus, concentrate, and retain the word definitions being taught. The effectiveness of pictures as a medium for vocabulary learning and retaining supports the Pictures Superiority Effect, a well-established experimental finding that the pictures are recalled better than labels (e.g., Brady et al., 2008). Moreover, another reason that improves the scores is the level of students' engagement. During the teaching demonstration using the Photonary strategy, we observed that the pupils were more participative and enthusiastic in guessing the meaning of words based on picture clues provided. In the beginning, students provided not completely accurate definitions and explained how they arrived at those answers. After sharing and listening to each other's ideas, they came up with a better understanding of the term's accurate meaning. The Photonary strategy provides the opportunity for students to be actively engaged in fun and meaningful experiences. Student engagement is crucial for learning, retention, and academic performance and achievement (e.g., Appleton, Christenson, Kim, & Reschly, 2006; Fredricks et al., 2004; Gunuc & Kuzu, 2015).

This table 2 uses the t-Test statistics to determine the significant differences between the pre and post-test.

In summary, the effectiveness of the photonary strategy was evaluated by a pre-test and post-test among the grade 1 pupils. The findings demonstrated that the scores significantly improved when researchers implemented the Photonary teaching strategy. Media such as pictures are effective scaffolding tools that stimulate learning new or unfamiliar words. The Photonary Strategy uses visual images that help convey meaning just as text-based explanation and verbal information. Students get much better at figuring out and remembering the definition of the words by associating the words with pictures rather than words alone. Visual information is processed efficiently. Another advantage of using the images is it increases students' attention and engagement, which can influence information retention. Students are actively involved in the learning process. The visual images intrigue the students and motivate them to think, which goes beyond memorization. Students have to examine the photos, apply their prior knowledge, listen and learn from other people's ideas.

4. Conclusion

The posttest data revealed that the Photonary Strategy improved the vocabulary skills of the Grade 1 pupils. The research literature and the results of the assessments indicate and support that incorporating images in classroom instruction can increase learning and enhance vocabulary development. The Photonary strategy that involves using pictures with vocabulary terms is effective in helping the students communicate, understand, and remember the meaning of words. This advantage to the pupils forms early success in reading and listening which are being emphasized in this study because students positively adapt to the teacher's strategy. Thus, an increase in the post-test results determines how competent pupils are after having conducted the strategy compared to the pre-test results.

5. Recommendations

Based on the study's findings and conclusions, the following recommendations were developed:

1. When teaching vocabulary among grade 1 pupils, the teacher may use the Photonary Strategy to enhance the learning experience of the pupils.
2. Encourage the students to figure out the meaning of the word by their own through picture clues. The Photonary strategy must ensure student engagement.
3. Parents as immediate educators to the pupils must value the use of Photonary to gradually increase pupils' drive to understand and communicate.
4. Training for language teachers in the use of Photonary strategy may be considered to improve and update innovative ways of teaching vocabulary to grade 1 learners.
5. The study may also recommend further research in other vocabulary types for vocabulary learning since this study only focuses on the reading and listening skills that impact pupils' ongoing drive for vocabulary development.
6. It is strongly suggested that additional research be carried out in order to test the photonary strategy over a longer period of time because there is a limited knowledge of the strategy's long-term effectiveness. This is to enhance and improve the strategy's performance and efficiency.

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