

An Application of Marzano's six-steps process and Digital flashcards on Vocabulary learning for Grade 12 students in Thailand

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ABSTRACT: The objectives of this study were to (1) apply Marzano's six-steps process and Digital flashcards on Vocabulary learning and (2) study the effects of Marzano's six-steps process and Digital flashcards on Vocabulary learning for Grade 12 students in Thailand. The research design was pre-experimental design in the form of one-group Pre-test- Post-test design. The sample of this research were 25 Grade 12 students in the 2nd semester of the academic year 2023 of the school in Bangkok, Thailand by using Purposive sampling. The hypothesis was the Vocabulary post-test mean score of Grade 12 students after participation Marzano's six-steps process and Digital flashcards on Vocabulary learning was significantly higher than Vocabulary pre-test mean score at the .05 level. The research instruments were (1) the Ten Lesson plans based on Marzano's six-steps process and Digital flashcards, (2) Vocabulary pre-test and post-test, and (3) Satisfaction to Vocabulary learning questionnaire. The used statistics were mean, standard deviation, and t-test dependent. The results were as follows: (1) The Ten Lesson plans based on Marzano's six-steps process and Digital flashcards on Vocabulary learning created by the researcher and were evaluated by the three experts at the good level (4.43, S.D.=0.50); (2) The Vocabulary post-test mean score (12.34 ,SD = 2.67) was significantly higher than the Vocabulary pre-test mean score (7.08 ,S.D.=0.95) at the level of .05. The hypothesis was accepted ; and (3) The average mean of the Satisfaction to Vocabulary learning of the Grade 12 students of the school in Thailand after participation Marzano's six-steps process and Digital flashcards on Vocabulary learning was at the high level. (4.50, S.D.=0.19)

Key words - Vocabulary learning, Digital flashcards, Marzano's six steps process, Grade 12 students

1. INTRODUCTION

In the present global society, learning foreign languages is very important and essential to daily life, as foreign languages serve as an important tool for communication, education, seeking knowledge, livelihood and creating understanding of cultures and visions of the world community. The foreign language constituting basic learning content that is prescribed for the entire basic education core curriculum in Thailand is English [1]. However, for the past 15 years, the Ordinary National Education Test (O-NET) has been the target of criticism, introduced to test the English proficiency of students nationwide in 2005, it has been attacked for its failure to improve their knowledge and skills. O-NET average score of English for Grade 12 from 2015 – 2019: they are 24.9% in 2015, 24.8% in 2016, 28.3% in 2017, 31.4% in 2018, and 29.2% in 2019 [2].

The average English O-NET scores of Thai students have been low from 2015 to 2019. Even though there was an increasing trend between the years 2015 and 2018, the average score was still below the standard level; and the score even dropped down in the year 2019. When the English proficiency of Thai students assessed by other institutions was considered, Thailand scored 47.62 in the EF English Proficiency Index 2019 prepared by Swiss-

based Education First, resulting in the country being placed at a low level among the countries in Southeast Asia [3].

Among the ASEAN members, Thai students' English proficiency was relatively low compared to other countries. The average TOEFL score in 2018 revealed that the Thai students were ranked 16th out of 24 countries in ASIAN. And the 64th out of 88 countries globally [4]. Moreover, the result of an average score of the Ordinary National Education Test in respect to the English language of Thai students in 2018 was 36.34. from 100 [5]. This indicated the relatively low English proficiency of Thai students that needs to be improved.

There is a failure somewhere in Thai students' education towards learning English. Thai students were improving, but they were starting from a low point to begin with. Eventually the scores dropped further. This could possibly mean that there is room for improvement in teaching methods, including utilizing more tools that may help students learn more effectively.

Vocabulary learning is an essential factor in language learning because it links to the four language skills, which are reading, listening, speaking, and writing. Students who have less vocabulary will find difficulties in learning a language and hard to develop other language skills. By having a sufficient vocabulary of the target foreign language, it will be easier for them to master the four language skills. In reading, mastering vocabulary helps the students to know the meaning of each word written and understand the meaning of a context. In listening, mastering vocabulary helps the students to grasp what they hear from a conversation or radio or television. In speaking, mastering vocabulary helps the students engage in communication, they understand what people say and they know what they want to say. In writing, mastering vocabulary helps the students to express their ideas in writing [6].

Vocabulary has become increasingly important as the focus on communicative language teaching (CLT) has increased in recent decades. Vocabulary is regarded as one of the most crucial aspects of language instruction. Vocabulary is a key in second language learning since it mediates language comprehension and production. In addition, vocabulary knowledge is necessary for comprehension, especially for the oral one. Despite its great importance, there was little emphasis on vocabulary for years. However, researchers focus more on strategies and techniques for teaching vocabulary [7].

Vocabulary is a major problem among Thai students as well. Saenpakdeejit [8] pointed out that students in Thailand commonly face difficulties in learning English, which can be caused from lacking lexical knowledge. Insufficient vocabulary may cause students to struggle with enhancing their English proficiency. Knowledge of vocabulary is very important for helping students to understand complex materials such as textbooks which contain many concepts and technical vocabulary.

The researcher works as an English teacher in Thailand for more than 5 years, the researcher found that students have many problems with vocabulary. Currently at the researchers' school, there are two separate programs that students can participate in. The English program, and the standard Thai program. This research has been conducted using students exclusively from the Thai program. The Thai program offers two English classes. A communication class, which focuses on student speaking and listening skills. The second program is a more intensive program, where students focus on reading, writing, speaking, and listening. Both programs have vocabulary as a focus in the curriculum. The teachers are required to follow the book's lead. The teachers are allowed to use other materials and outside activities, if the students are learning the content of what the book is teaching. There are two different classes which means that there are two different books.

In the first class, the speaking class, vocabulary is difficult for most students to learn. The book has students go through a series of activities, one or two of those activities are heavily vocabulary based, and then the students engage in a speaking activity with the class or the teacher. Students often do not spend more than one class period learning the vocabulary words, and then they are not reviewed in the future. Therefore, it is evident why students rarely retain vocabulary in the conversation class.

In the second class, vocabulary scores are better, but they are not where they should be. The book was created by Cambridge, but it was meant for advanced or native speaking students. The students do retain more vocabulary most likely due to each consecutive lesson builds on the previous. Meaning that if one day the students receive instruction on vocabulary, the next day they read, those vocabulary words will show up, and so

on and so forth. The problem for this class is that the material is too difficult for most of the students. Even if they engage with the vocabulary multiple times, the material being too difficult does not allow them to learn and use the vocabulary. To overcome these obstacles, teachers need to engage the best kinds of vocabulary instruction and use technology that accommodates and supports that instruction.

To help aid in increasing English proficiency, the researcher used Marzano's six steps process and Digital flashcards for learning vocabulary. The Marzano's six steps process include as follows: Step 1 Explain: provide a student-friendly description, explanation, or example of the new term, Step 2 Restate: ask students to restate the description, explanation, or example in their own words, Step 3 Show: ask students to construct a picture, symbol, or graphic representation of the term, Step 4 Discuss: engage students periodically in structured vocabulary discussions that help them add to their knowledge of the terms in their vocabulary notebooks, Step 5 Refine and reflect: periodically ask students to return to their notebooks to discuss and refine entries, and Step 6 Apply in Learning Games: involve students periodically in games that allow them to play with terms [9]. Marzano's six steps process allowed the students to engage with a variety of different vocabulary while tailoring instruction to their level. The student's current books were too difficult for most of them which did not allow for students to engage with vocabulary to learn it. Marzano's six steps process allowed students to engage with the vocabulary in a way that they could understand and allowed students to see the word in contexts that they could relate to. This was because Marzano's six steps process was a guideline that allowed the teacher to select activities that fitted with the student regardless of level.

Suing [10] suggested a strategy, Marzano's six steps Vocabulary process, that began to build vocabulary knowledge, along with fluency and sentence complexity, at a significantly fast rate, nine weeks. Collective effect sizes of .967, .914, .346 .996, .693, and .986 in this study reflected an expected percentile gain of from 13% to 34%. These were significant and promising data.

Al-Husban and Alkhalwaldeh [11] found that the mean score of the experimental group on the post test of teaching vocabulary performance scale was higher than that of the control group and the findings of this study revealed that Marzano's six steps vocabulary process had a positive effect on teachers' performance in teaching vocabulary.

Besides Marzano's six steps process, the researcher used Digital flashcards for learning vocabulary. Flashcards were a form of media that used pictures to show the students the meaning of the picture in English. There were 2 kinds of Flashcards, they were Paper flashcards and Digital flashcards. Paper flashcards were printed or drawn cards with words or pictures and Digital flashcards could be defined as the electronic elements that could be manipulated by a computer device or any machinery that could reproduce them [12]. Digital flashcards were the digital media of this research because the researchers found that it was easy to be accessed both on smartphones and PCs, convenient to use, and most importantly interesting to attract young learners' attention. Digital flashcards could be suitable for this generation. As Colbran, et al [13] said, they could provide an opportunity to revisit old learning activities from a new perspective. So that the learning of vocabulary can be suitable in as much as learning vocabulary was very important for developing the second language proficiency. Xodabande et al. [14] explored the relative effectiveness of Digital flashcards used on smartphone devices when compared with traditional paper-based materials in teaching vocabulary items from recently developed corpus-based general and academic word lists of university students.

Using flashcards as a technique of studying was tested on students from the communication class by the researcher during using Marzano's method to teach the students, Digital flashcards were used to reinforce vocabulary and served as a tool to have students review what they have learned and could be used at their leisure.

2. STATEMENT OF THE OBJECTIVES

2.1 To apply Marzano's six-steps process and Digital flashcards on Vocabulary learning for Grade 12 students in Thailand.

2.2 To study the effects of Marzano's six-steps process and Digital flashcards on Vocabulary learning for Grade 12 Students in Thailand.

3. RESEARCH QUESTIONS

- 3.1 How was the application of Marzano's six-steps process and Digital flashcards on Vocabulary learning for Grade 12 students in Thailand?
- 3.2 Did the application of Marzano's six-steps process and Digital flashcards on Vocabulary learning effectively affect Grade 12 students in Thailand?
- 3.3 What was the satisfaction level of Grade 12 students in Thailand after the application of Marzano's six-steps process and Digital flashcards on Vocabulary learning?

4. HYPOTHESIS

The Vocabulary post-test mean score of Grade 12 students in Thailand after the application of Marzano's six-steps process and Digital flashcards on Vocabulary learning was higher than the vocabulary pre-test mean score.

5. LITERATURE REVIEW

5.1 Vocabulary learning

Vocabulary learning is a crucial aspect of learning a second language. Jafarin, and Shoari [15], defines vocabulary as an element of language that links the four macro skills including listening, speaking, reading, and writing. However, vocabulary plays an important role in oral language development and early literacy, and it is central to English language teaching because without sufficient vocabulary students cannot understand others or express their own ideas.

Literacy experts have designed vocabulary instruction principles that are essential for teaching vocabulary effectively. [16]

The first principle of effective vocabulary instruction is devising vocabulary instruction based on students' prior experience, which highlights the need to move from known to unknown words and to use students' background knowledge about the word for meaningful processing.

The second principle of effective vocabulary instruction is to design a rich environment that provides context for the vocabulary words. It is important to describe the context in which the word is used, because effective word learning cannot take place in isolation.

The third principle of effective vocabulary instruction is to provide students with diverse exposure to words is the third principle of effective vocabulary instruction. Multiple opportunities to interact with words are necessary for students to truly understand the words.

The fourth principle of effective vocabulary instruction is to engage students in the vocabulary learning process.

5.2 Marzano's six steps process

In this study, the researcher adopted Marzano's six-steps process, which was demonstrated in his book "Building Academic Vocabulary: Teachers' Manual" [17]. Marzano clarified that the first three steps are used to introduce a new term to students. The last three steps address different types of multiple exposures that students should experience over time to help them shape and sharpen their understanding of the terms. The six steps are as follows:

Step 1: Explain—Provide a student-friendly description, explanation, or example of the new term.

Step 2: Restate—Ask students to restate the description, explanation, or example in their own words.

Step 3: Show—Ask students to construct a picture, symbol, or graphic representation of the term.

Step 4: Discuss—Engage students periodically in structured vocabulary discussions that help them add to their knowledge of the terms in their vocabulary notebooks.

Step 5: Refine and reflect—Periodically ask students to return to their notebooks to discuss and refine entries.

Step 6: Apply in Learning Games—Involve students periodically in games that allow them to play with terms.

Effectiveness of Marzano's Method

Schramm [18] conducted the research entitled "Delivery of Academic Vocabulary in Third Grade Mathematics Instruction". It was found that students did benefit from R.J. Marzano's Six Step Process to academic vocabulary

instruction and demonstrated greater understanding of mathematical academic vocabulary words through assessments.

Ghera [19] conducted the research entitled “Using Marzano’s Six Steps to Vocabulary Instruction in a Fourth Grade Classroom”. The study concluded that 43% of high achieving readers that participated in the study had a higher increase in vocabulary knowledge when Marzano’s method was used and 57% of high achieving readers that participated in the study had a higher increase in vocabulary knowledge when the Wonders method was used. The study concluded that only 25% of the low achieving readers that participated in the study had a higher increase in vocabulary knowledge when Marzano’s method was used. Therefore, in this study using Marzano’s method for vocabulary instruction did not do a better job than the Wonder’s method in increasing low achieving readers’ vocabulary knowledge.

5.3 Digital flashcards

Young [20] said that the flashcards, especially in their digital incarnations, are some of the most powerful learning tools. Flashcards are very useful for students of all age groups even from 6 months old.

There are four types of digital flashcards [21].

5.3.1 Classic or traditional flashcards: This is the version of the Conventional flashcard that teachers know its operation consists of a question that becomes an answer as soon as teachers press it.

5.3.2 Image and text: It is about on one side the image, on the other side the content, meaning or explanation, this is a good tool for students who have visual learning style.

5.6.3 Text and video: Digital flashcards can also be combined with a text and video; this serves to reinforce the teaching and avoid teaching in a monotonous way.

5.3.4 Interactive flashcards: It contains two sides; one side has an explanation about topic, on the other side a small activity or game that was taught previously, this type of digital flashcards helps students to be active during the learning process.

Steinmeyer [22] conducted the research titled “Implementation of Digital Flashcards to Increase Content-Specific Vocabulary Knowledge and Perceptions of Motivation and Self-Efficacy in an Eleventh Grade U.S. History Course: An Action Research Study”. The findings suggest that eleventh-grade U.S. History students can successfully use digital flashcards to learn content-specific vocabulary while positively affecting their motivation and self-efficacy.

6. RESEARCH METHODOLOGY

6.1 Research Design

This study used pre-experimental design in the form of one- group Pretest- Posttest design using a quantitative approach. The procedure was as follows.

6.1.1 Administered vocabulary pretest including antonyms and synonyms, and filled in the blanks of the fifteen vocabulary words.

6.1.2 Implemented Lesson plans based on Marzano’s six-step process and Digital flashcards for Vocabulary learning. At the end of every teaching session, students studied through all flashcards 3 times in a randomized fashion.

6.1.3 Administered Vocabulary posttest including antonyms and synonyms, filled in the blanks, and identified the mistakes of the fifteen vocabulary words.

6.1.4 Administered Satisfaction on Vocabulary learning based on Marzano’s six-steps process and Digital flashcards questionnaire.

6.2 Respondents

6.2.1 Population

The population of this research included 3 Grade 12 students’ classrooms in the 2nd semester of the academic year 2023 of the school in Bangkok, Thailand.

6.2.2 Sample

The sample of this research was a Grade 12 students' classroom in the 2nd semester of the academic year 2023 of the school in Bangkok, Thailand. The research selected a Grade 12 students' classroom by using Purposive sampling. There were 25 Grade 12 students.

6.3 Research instruments

There were 3 research instruments as follows.

6.3.1 Instructional instrument

An instructional instrument was the 10 lesson plans based on Marzano's six-steps process and Digital flashcards.

Steps of Lesson plan and Digital flashcards creating were as follows.

6.3.1.1 Identifying the objectives of each Lesson plan.

6.3.1.2 Identifying the vocabulary contents of each Lesson plan

6.3.1.3 Designing learning activities based on Marzano's six-steps process and Digital flashcards. There were Step 1 Explain: provide a student-friendly description, explanation, or example of the new term; Step 2 Restate: ask students to restate the description, explanation, or example in their own words; Step 3 Show: ask students to construct a picture, symbol, or graphic representation of the term; Step 4 Discuss: engage students periodically in structured vocabulary discussions that help them add to their knowledge of the terms in their vocabulary notebooks; Step 5 Refine and reflect: periodically ask students to return to their notebooks to discuss and refine entries; and Step 6 Apply in Learning Games: involve students periodically in games that allow them to play with terms.

6.3.1.4 Designing Learning medias and Digital flashcards related to learning activities based on Marzano's six-steps process and Digital flashcards of each Lesson plan.

6.3.1.5 Designing Evaluation related to Objectives of each Lesson plan based on Marzano's six-steps process and Digital flashcards.

6.3.1.6 Examining the Validity of the 10 Lesson plans based on Marzano's six-steps process and Digital flashcards by the three specialists by using the Lesson plan evaluation Form. The average of the validity value of the 10 lesson plans based on Marzano's six-steps process and Digital flashcards was at the good level (mean = 4.43, S.D.=0.50). Additionally, the researcher improved some parts of the 10 lesson plans based on Marzano's six-steps process and Digital flashcards as the opinions of the three specialists.

6.3.1.7 Trying out of some lesson plans based on Marzano's six-steps process and Digital flashcards with some Grade 12 students who were not the sample of the study and improved some parts of some Lesson plans.

6.3.1.8 Making the final of the 10 lesson plans based on Marzano's six-steps process and Digital flashcards to be the instructional instrument.

6.3.2 Data collection instruments

There were two data collection instruments as follows: Vocabulary pre-test and post-test and Satisfaction to vocabulary learning questionnaire.

6.3.2.1 Vocabulary pre-test and post-test creating, the Vocabulary pre-test and post-test consisted of thirty multiple-choice items to measure the vocabulary that students' study. The researcher created two Vocabulary tests. A test was conducted for the pre-test, and another test was conducted for the post-test. The pre-test was parallel to the post-test. For examining the validity of Vocabulary pre-test and post-test validity, they were validated by the three specialists to determine the appropriateness of the Vocabulary pre-test and post-test by using the Item-Objective Congruence Index (IOC). All the items had IOC scores during 0.67 – 1.00. Additionally, for examining the reliability of Vocabulary pre-test and post-test, the researcher tried out the Vocabulary pre-test and post-test with the Grade 12 students who were not the participants of this study. The data was analyzed using the reliability coefficient Cronbach's alpha. The Cronbach's alpha value was 0.88 which was higher than 0.70, it was identified the Vocabulary pre-test and post-test was strong enough to be employed in this study.

6.3.2.2 A satisfaction questionnaire creating, the researcher designed the satisfaction questionnaire to examine the students' satisfaction with Vocabulary learning based on Marzano's six-steps process and Digital flashcards. It was consisted of two parts: the first part was consisted of ten items designed as a five-point Likert Scale, and the second part was an open-ended section where students could express their ideas about Vocabulary learning based on Marzano's six-steps process and Digital flashcards. For examining the validity of the satisfaction

questionnaire, it was validated by the three specialists by using the satisfaction questionnaire evaluation Form to determine the appropriateness of the satisfaction questionnaire. The validity of the satisfaction questionnaire was at the Very good level (mean=4.79, S.D.=0.65). Some items of the satisfaction questionnaire were revised according to the suggestions of the specialists. Additionally, for examining the reliability of the satisfaction questionnaire, the researcher tried out the satisfaction questionnaire with some Grade 12 students who were not the sample of the study. The data was analyzed using the reliability coefficient Cronbach's alpha. The Cronbach's alpha value was 0.87 which was higher than 0.70, which means the satisfaction questionnaire was strong enough to be employed in this study.

6.3.3 Data Collecting

The data was collected by using pretest and posttest. Pre-test was given to the students in the beginning of the research. Then, the post-test was given to the students at the end of the research and the satisfaction questionnaire were answered by the students.

6.3.4 Data analysis

The pre-test and post-test mean score and the mean and standard deviation of the satisfaction questionnaire were analyzed by using SPSS program.

7. RESEARCH FINDINGS

TABLE 1: The comparison between the Post-test and Pre-test mean score of Vocabulary Learning of Grade 12 students of the school in Thailand after and before applying Vocabulary learning activities based on Marzano's six-steps process and Digital flashcards.

No	Time	n	Mean	SD	t-value	df	p-value
1	Post- test	25	12.24	2.67	9.712*	24	.0000
2	Pre- test	25	7.08	0.95			

Regarding TABLE 1: There was significantly different between the post-test and the pre-test mean score at the level of .05. The post-test score was 12.34 (SD = 2.67) while pre-test mean score was 7.08 (SD=0.95). Hence, the post-test mean score was significantly higher than the pre-test mean score.

TABLE 2: The mean, standard deviation, and level of the Satisfaction to Learning activities of the Grade 12 students of the School in Thailand after being taught by applying Marzano's Six-Step Process and Digital Flashcards on Vocabulary Learning.

No	Items	n	Mean	SD	Level
1	I think I am satisfied with the explanation of how we learn.	25	4.44	0.51	High
2	I think I am satisfied with the pre-Test.	25	5.00	0.00	Very high
3	I think I am satisfied with the teacher and his teaching methods.	25	3.76	0.60	High
4	I think I am satisfied with the explanation of the vocabulary words.	25	4.68	0.48	Very high

5	I think I am satisfied with vocabulary learning activities such as drawing pictures, explaining the vocabulary in our own words, and comparing our understanding with other students.	25	4.68	0.48	Very high
6	I think I am satisfied with the reading material of the vocabulary words.	25	3.96	0.68	High
7	I think I am satisfied with the games used with vocabulary words.	25	3.80	0.82	High
8	I think I am satisfied using flashcards to help learn vocabulary words.	25	4.72	0.46	Very high
9	I think I am satisfied with doing the post-test.	25	4.92	0.28	Very high
10	I think I am satisfied with the class overall.	25	5.00	0.00	Very high
Average		25	4.50	0.19	High

Regarding TABLE 2: The Average mean of the Satisfaction to Learning activities of the Grade 12 students of the School in Thailand after applying Marzano's six-steps process and Digital flashcards on Vocabulary Learning was 4.50 (S.D.=0.19), it was at the high level.

Most of the Grade 12 students were satisfied to Learning activities after applying Marzano's six-steps process and Digital flashcards on Vocabulary Learning at the Very high level about the Pre- test (5.00) and the class overall (5.00), the Post-test (4.92), using flashcards to help learn vocabulary words (4.72), the explanation of the vocabulary words (4.68), activities such as drawing pictures, explaining the vocabulary in our own words, and comparing our understanding with other students (4.68).

Some of Grade 12 students were satisfied to Learning activities of the Grade 12 students of the School in Thailand after being taught by applying Marzano's Six-Step Process and Digital Flashcards on Vocabulary Learning at the High level about the explanation of how we learn (4.44), the reading material of the vocabulary words (3.96), and the games used with vocabulary words (3.80), and the teacher and his teaching methods (3.76).

8. DISCUSSION

It was found that the Vocabulary post-test mean score of Grade 12 students in Thailand after the application of Marzano's six-steps process and Digital flashcards on Vocabulary learning was significantly higher than the vocabulary pre-test mean score at the level of .05. What the researcher found this time was consistent with the theoretical concept of Marzano [23] who declared that there were six steps vocabulary process as follows: Step 1 Explain: provide a student-friendly description, explanation, or example of the new term, Step 2 Restate: ask students to restate the description, explanation, or example in their own words, Step 3 Show: ask students to construct a picture, symbol, or graphic representation of the term, Step 4 Discuss: engage students periodically in structured vocabulary discussions that help them add to their knowledge of the terms in their vocabulary notebooks, Step 5 Refine and reflect: periodically ask students to return to their notebooks to discuss and refine entries, and Step 6 Apply in Learning Games: involve students periodically in games that allow them to play with terms. As well as Marzano confirmed that the first three steps were used to introduce a new term to students, the last three steps addressed different types of multiple exposures that students should experience over time to help them shape and sharpen their understanding of the terms. Al-Husban and Alkhawaldeh [24] found that the mean score of the experimental group on the post test of teaching vocabulary performance scale was higher than that of the control group and the findings of this study revealed that Marzano's six steps vocabulary process had a positive effect on teachers' performance in teaching vocabulary.

Additionally, Digital flashcards were used as a technique of studying by the researcher during using Marzano's method to teach the students, Digital flashcards were used to reinforce vocabulary and served as a tool to have students review what they have learned and could be used at their leisure. Nakata [25] stated that the digital

flashcards were another type of flashcard that could be even more effective than paper. Young [26] said that the flashcards, especially in their digital incarnations, were some of the most powerful learning tools. Flashcards were very useful for students of all age groups even from 6 months old. Asabdaftari and Mozaheeb [27] discover three main advantages of digital flashcards: ubiquity, convenience, and entertainment to teach new words. In addition, the researcher also found that the Average mean of the Satisfaction to Learning activities of the Grade 12 students of the School in Thailand after applying Marzano's six-steps process and Digital flashcards on Vocabulary Learning was at the high level. Yawaboot [28] found that flashcards were recognized to have a positive motivational effect on language learners and have been used in EFL teaching for years as a strategy for learning vocabulary. As well as Rahmatulloh and Abror [29] stated that the performance of teachers in class was one of the general factors that influence students' satisfaction toward education program. It was in line with several experts that mention teachers' teaching skills and methods in class result in different level of students' satisfaction.

9. CONCLUSION

Due to the Grade 12 students had some problems about vocabulary learning, the researcher used Marzano's six steps process and Digital flashcards for learning vocabulary to solve those problems. It was found that Marzano's six steps process and Digital flashcards for learning vocabulary could solve the vocabulary problems and most of the Grade 12 students were satisfied to Learning activities after applying Marzano's six-steps process and Digital flashcards on Vocabulary Learning at the high level. It was revealed that Marzano's six steps vocabulary process had a positive effect on teachers' performance in teaching vocabulary.

9.1 Advantages

Vocabulary is the building block of oral and written communication. When students have more words available to them in their toolkits, they can more effectively communicate exactly what they want to say or write. This study might provide valuable insights and useful suggestions to foster the instructional performance of EFL teachers in teaching vocabulary.

The study might be very useful for students to memorize vocabulary, learn sentences, review grammar rules and among others. Knowing how they influence learning vocabulary, contributes to understanding how we can help students to make learning another language something not so complex and help it be more engaging.

This study may also contribute to bringing different alternatives to change, somewhat, the way English teachers teach. Although traditional classes have been useful, today some help is needed to make them productive and entertaining too. Besides, by making use of technology attention can be caught by the present generation who are very interested in these forms of media.

Moreover, this research project brought not only group impact, but also individual impacted since students learned more vocabulary and they developed an interest for learning foreign languages, as these methods were not exclusive to English. This project might be productive because it might increase and help language proficiency because of its pedagogical intervention. This study might provide future research a new way of focus and usage of technology in teaching.

9.2 Limitation

This study was limited to Grade 12 students. Due to the amount of time and limited resources, multiple choice test was one of the only formats available to test students' knowledge of their vocabulary. It was possible for students' scores to be inflated due to guessing the correct answer during the vocabulary pre-test which may skew the results when comparing them to the vocabulary post- test.

9.3 Recommendation

9.3.1 Recommendation for educators and schools

Vocabulary plays an important role in studying English. Effective vocabulary instruction is a key foundation to helping students acquire a wide and diverse vocabulary. Students need both direct and indirect instruction in vocabulary and word meanings as well as multiple exposures to words. It is through multiple exposures and

repetition that students begin to understand the nuances of words and how to use them when speaking and writing. Robert J. Marzano, identified vocabulary development as one of the key elements in the educational process and developed a six-step method for enhancing it. Whether teachers seek to improve language skills or teach students of all ages, Marzano's six-steps process and Digital flashcards is effective. Marzano's six-steps process is a tried-and-true method for improving students' vocabulary. Whether a parent, teacher, student, or simply someone who enjoys language, completing these steps can open a new world of possibilities. The administration and school board of the school where the study was done can be assured that the literacy curriculum they have chosen for the students and educators to use is helping students in the twelfth grade make gains in vocabulary. This is a good use of time and resources.

9.3.2 Recommendation for future research

The researcher suggests that more research be done on the various types of vocabulary instruction available to students and educators to determine which method works best. Larger participant samples, multiple grade levels, and a longer study would be beneficial in collecting more reliable data. In the meantime, the researcher will use the knowledge gained from this study to better serve students in the classroom when it comes to vocabulary instruction. Further recommendations for studies measuring the effects of Marzano's six steps Vocabulary Process, on all five components of reading, Phonemic Awareness, Phonics, Vocabulary, Comprehension, and Fluency, are recommended.

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