



Digital Games as Motivational Tools in the Teaching of Vocabulary

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ABSTRACT

To address the rising need to present vocabulary content to 21st century second language learners in ways they can easily understand, and considering their tech – savvy nature, this study explored the motivational effect of digital games in the teaching of vocabulary. Based on this premise, this study utilized a quantitative data approach centered on learners' vocabulary level in relation to using digital games for vocabulary instruction. Likewise, a focus group discussion was conducted to investigate the learners' and the teacher's experiences during the implementation of digital games for vocabulary instruction. There was empirical evidence found in relation to the positive motivational effect of digital games in vocabulary instruction. This is significant proof of how the young learners of today acquire language content using technology. This help offer new and relevant innovative strategies in language and vocabulary instruction with the integration of technology in the classroom.

Keywords: Motivation, Technology, Language

1. Introduction

1.1. Nature and Importance of the Study

Proficiency in using a language entail having a sufficient amount of vocabulary. Speakers of a language, to communicate effectively, must be equipped with adequate vocabulary knowledge needed for them to convey their thoughts, views, judgments, and feelings. For most language learners whose aim is to communicate using the target language, mastering vocabulary is crucial for effective communication.

When proficiency comes in, second language (L2) learning becomes a huge, complex phenomenon. Wold (2006) claims that not everyone who learns L2 develops proficiency in using the language and that lack of headway can be an obstacle to the learner's success. Consequently, vocabulary teaching and learning strategies made its way into the classroom. One of the major concerns of teachers in vocabulary teaching is how to present content in a way that learners can comprehend and apply the use of vocabulary suitably (Astika, 2015).

It is interesting to note that the arrival of modern and innovative technologies has offered English language teaching with varied options to teach the language including vocabulary. In this modern technological era where everyone has access to all types of technological resources, English language teaching takes an upside-down shift where tech-savvy learners prefer to embrace digital-based learning.

Despite studies showing the positive impact of technology – based instruction on language learning, Grabe & Stoller (2002) argues that less priority is given to vocabulary learning in second language classrooms.

L2 learners who belong to the digital era are practiced users of digital technology, hence, they naturally gravitate to it. Since 21st century learners began to study in today's schools, the classroom has begun to change. Teaching and learning have evolved, and innovative approaches were created to accommodate to this new generation of learners.

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Though there have been several studies looking into technology use in language teaching, especially vocabulary, there are relatively limited empirical studies that delve on the effectiveness of using educational digital games in formal educational settings. Hence, this study aims to investigate how technology in the form of educational digital games affect learners' vocabulary level when in used in the classroom.

In this study, it is the researcher's aim to discover the impact of digital games on the vocabulary of elementary English learners. With this, various opportunities to discover new teaching strategies arise using different technological resources in the form of digital games. A study of the present vocabulary level of learners and their progress using digital games helps pedagogical teams identify what works best for young L2 learners. Moreover, this study also increases insight into the differences or similarities of language learning preferences and styles among L2 learners.

1.2. Objectives

This study seeks to investigate the effects of digital games in teaching vocabulary to grade 5 learners. In particular, it purports to:

1. Identify the vocabulary level of the learners before and after the intervention.
2. Identify how digital games are implemented in an English class.
3. Identify if there is a significant difference in the learners' vocabulary scores after the intervention.
4. Identify the learners' and the teacher's experiences during the implementation of the digital games.
5. Recommend relevant proposals based on the findings.

2.Theoretical and framework

2.1. Theoretical Framework

This study is anchored on two theories which illustrates vocabulary learning and the use of technology in learning:

Dual Coding Theory, proposed by Allan Paivio in 1971, postulates a significant distinction between the verbal code and the non – verbal code. Representation and processes of these two codes clarifies understanding of words and their definitions. Consequently, a vital characteristic of Dual Coding Theory is the difference between abstract and concrete words. Learning of abstract words depends mainly on verbal associations for its meaning while concrete words suggest non – verbal images as a type of meaning (Sadovski, 2005).

Images and situations in the real living world prompt learners to learn more about the words they encounter and use daily. Anchored instruction Theory, proposed by John Bransford in 1992, teaches through technology by taking the real world as the fundamental subjects. The real world is described as the “anchor” and the manner of recognizing the real world to decipher difficulties is called “casting the anchor”. This theory emphasizes technology – based learning where students obtain mastery learning of knowledge and skills through interactive and collaborative learning opportunities with the use of technology (Ouyang & Stanley, 2014).

With the integration of technology into language learning, it is important to point out that the present generation of learners are digital natives, therefore, they prefer digital – based learning to traditional learning. As early as the elementary years, learners are exposed to different technological devices which make a huge part of their daily life. It is also in these early years that their vocabulary in L2 needs to be developed.

Hence, this study investigates the grade 5 learners' vocabulary level through a vocabulary pre – test. To further develop their vocabulary level, vocabulary is taught using technological tools in the form of digital games. The words found in the vocabulary games are suited to the grade 5 learners' level and provide them with the intervention that they need through digital – based learning. A vocabulary post – test examines if there has been an increase in the learners' vocabulary level after the intervention. Additionally, this study investigates the learners' and the teacher's experiences during the implementation of the digital games in vocabulary instruction. The aim is to see how the teachers and learners' respond to technology – based vocabulary instruction and learning.

Lastly, relevant digital games are proposed based on the findings of this study. These proposed games are intended for vocabulary instruction anchored on technology – based learning.

3. Methodology

3.1. Research Design and Sampling

This study utilized a quantitative data approach centered on learners' vocabulary level in relation to using digital games on vocabulary instruction. This study studied the effect of digital games on vocabulary learning using a one – shot experimental design, where a single group of respondents were exposed to an experimental treatment and a single measurement was taken afterwards. This design was selected since this study solely looked on the effect of digital games on the vocabulary level of students, and this case does not need to be compared to general expectations of what it would have looked like had the treatment not occurred in other cases observed. To determine their current vocabulary level, the group of respondents was given a pre – test. To decide what impact digital games will have on their vocabulary, a post – test was given after a series of vocabulary instruction using digital games. Likewise, a focus group discussion was conducted by the researcher to investigate the learners' and the teacher's experiences during the implementation of digital games in the class.

This study has 33 participants who were enrolled in Grade Five at a public non-sectarian elementary school whose ages fall between 10 and 12 years old. The researcher used a purposive sampling procedure in selecting the participants and opted to choose all those who belong to the last section of grade five.

The researcher has chosen this group of participants since they already went through the English transition period from the Mother Tongue Based Multilingual Education (MTBMLE) during their fourth grade and they had been studying English since entering Grade Four at the elementary school. The researcher opted to select elementary learners as respondents for this study since vocabulary building for a second language must start as early as possible in the learner's education. This study was conducted at Bunga Elementary School (BES) in Brgy. Bunga, Cabucgayan, Biliran Province.

3.2. Data Collection Procedure

This study used a standardized vocabulary levels test by Schmitt, Schmitt, and Clapham (2001). The Vocabulary Levels Test was initially created by Paul Nation in 1980 (published in Nation, 1990), and modified by Schmitt, Schmitt, and Clapham in 2001. The test was used by the researcher to establish the lexical improvement of the participants in pre – test and post – test periods and to clarify to what extent the use of digital games in teaching influence vocabulary progress. Before the implementation of this study, the researcher secured permission from the authors of the Vocabulary Levels Test.

Likewise, a set of questions were asked on focus group discussion to investigate the experiences of both the teacher and the learners on the use of the digital games for vocabulary instruction.

The digital games presented to the respondents are researcher – made and the words used were based on the English Grade Five DepEd Teachers' Guide. These games were validated by three (3) experts in terms of their relevance to the teaching of grade five vocabulary.

Pre – Implementation Phase. At the onset, this study was submitted for review to the Research Ethics Committee to ensure that all ethical considerations were adhered to. Furthermore, the researcher secured permission from the division superintendent of Biliran Division, the district supervisor of Cabucgayan District, and the school principal of Bunga Elementary School to conduct the study in their respective jurisdictions. A permission was also obtained by the researcher from the parents or guardians of the respondents and the respondents themselves asserting that they agree to the terms of the conduct of the study. In addition, the researcher created lesson exemplars in preparation for the vocabulary lessons implementing digital games. Lastly, the digital games to be used in the study were validated by three (3) experts in terms of their relevance to the teaching of grade five vocabulary.

Implementation Phase. Once all the necessary consents were obtained, the researcher administered a pre – test using the Vocabulary Levels Test to the grade 5 learners of Bunga Elementary School. Afterwards, the lessons were conducted for a period of eight (8) weeks employing digital games in teaching vocabulary. The researcher conducted lessons twice a week for the whole English period which consists of sixty (60) minutes, following the DepEd Curriculum Guide guidelines where vocabulary development is to be integrated with other English lessons.

The digital games used for the lessons were researcher – made and the words that can be found in the games were based on the DepEd Teachers' Guide in Grade 5 English. Likewise, the mechanics of these games was tailored from the activities found in the Teachers' Guide.

These games were presented to the learners alternately or depending on the activities required in the Teachers' Guide. After the eight – week period of teaching using the digital games, the researcher administered a post – test using the Vocabulary Levels Test to the respondents. This was to examine if the use of the digital games in teaching vocabulary has affected the grade 5 learners' vocabulary level.

Post – Implementation Phase. The researcher conducted a focus group discussion to determine the learners' and the teacher's experiences and reactions on the use of digital games in vocabulary instruction. Meanwhile, the pre-post scores of the learners were gathered for analysis. All data gathered from the and interview were also collected. The findings of the analysis of these data were used to determine the effect of using digital games as motivational tools in teaching vocabulary to grade 5 learners.

3.3. Data Analysis

This study has a single selected group under observation, with a meticulous measurement done before employing the experimental treatment and measuring after. To determine the pre – post vocabulary levels of the respondents, the pre-post scores were compared with the range below:

Table 1. Vocabulary Levels Range, Schmitt, Schmitt, and Clapham (2001)

Score	Vocabulary Level
126 – 150	Advanced
101 – 125	Advanced (Low)
76 – 100	Intermediate
51 – 75	Intermediate (Low)
26 – 50	Beginner (High)
0 – 25	Beginner

To determine whether there was a significant difference in the mean gain and mean gain difference of the respondents' pre-post vocabulary levels, the t – test for pre – post mean gain and t – test for mean gain difference where variances of two sample measures are equal were used. Furthermore, to investigate the changes of mean scores over time points, the repeated measures design was employed for data analysis.

To analyze the data gathered from the focus group discussion, the researcher transcribed and examined the respondents' responses, noting that they have been exposed to a similar environment. This was to indicate the extent to which the respondents agreed/ disagreed on issues and the frequency of respondent opinion shift during the discussion. The researcher consolidated the responses by questions, noting most similar responses to each question asked.

4. Results and discussion

Vocabulary level of students before and after intervention. The pre – post vocabulary levels of the single selected group under observation, consisting of 33 respondents, were determined by their pre – post scores compared with the Vocabulary Levels Range by Schmitt, Schmitt, and Clapham (2001) (see Table I).

Table 2. Respondents' Pre – test Vocabulary Levels.

Pre – test Vocabulary Levels		
Test Mean Scores	Score Range	Vocabulary Level
	(Vocabulary Levels Test)	(Vocabulary Levels Test)
37.6061	26-50	Beginner (High)

The results show that the respondents' test mean scores of 37.6061 falls under Beginner (High) with a range score of 26 to 50, as compared with the Vocabulary Levels Range by Schmitt, Schmitt, and Clapham (2001). The pre – test scores show the performance of the respondents in the vocabulary pre – test done prior to the intervention. This indicate that with the learners' level of Beginner (High) prior to the intervention, certain factors instigate limited vocabulary among the learners. The struggle of inferring the meaning of unfamiliar words in the test posed a challenge. Furthermore, this is an indication of the need to address underlying issues in second language learning difficulties which point primarily to the challenge in vocabulary development.

With a limited number of English words in stock, the learners' main challenge in inferring the meaning of unfamiliar words in the test was understanding the clues that point to the correct word or answer. This implies that for the learners to further improve their vocabulary in English, they must first be familiar with the simple words that are used in everyday conversations which will help them in understanding more complex terms in the target language.

Table 3. Respondents' Post – test Vocabulary Levels.

Post – test Vocabulary Levels		
Test Mean Scores	Score Range	Vocabulary Level
	(Vocabulary Levels Test)	(Vocabulary Levels Test)
70.2121	51-75	Intermediate (Low)

The results show that the respondents' test mean scores of 70.2121 falls under Intermediate (Low) with a range score of 51 to 75, as compared with The Vocabulary Levels Range by Schmitt, Schmitt, and Clapham (2001). The post – test scores show the performance of the respondents in the vocabulary post – test done after the intervention. This indicate that with the learners' level of Intermediate (Low) after the intervention, multiple exposure to vocabulary words and practice lead to more familiarity and understanding of the words. The reason for this is simply because they were able to recall the meaning of the words and how they were used. Presenting the words with clues and examples also aided in their understanding and grasping the meaning of the unfamiliar words. This implies that multiple exposure to words and vocabulary practice can enhance learners' vocabulary in the target language.

Table 4. Respondents' Pre – post Vocabulary Levels.

Pre – post Vocabulary Levels			
Test	Test Mean Scores	Score Range	Vocabulary Level
		(Vocabulary Levels Test)	(Vocabulary Levels Test)
Pre – test	37.6061	26 – 50	Beginner (High)
Post – test	70. 2121	51 – 75	Intermediate (Low)

The pre – post scores show the performance of the respondents in the vocabulary pre – test done prior to the intervention and vocabulary post – test given after the intervention, with their corresponding vocabulary level. The results show that the respondents' vocabulary level before the intervention falls under Beginner (High) while their vocabulary level after the intervention falls under Intermediate (Low) as per their pre-post scores compared to the Vocabulary Levels Range by Schmitt, Schmitt, and Clapham (2001). The scores illustrate an increase in the vocabulary level of the learners after the intervention period which puts into light certain factors that affect vocabulary development. Furthermore, this indicates that learners who begin with low vocabulary level may struggle with unfamiliar words but with the aid of vocabulary teaching strategies and practice, low vocabulary level can necessarily be improved. This may imply that intervention using digital games can have a significant effect on learners' vocabulary levels. Furthermore, this may also imply that the use of digital games as a motivational tool in learning vocabulary can stimulate learners' interests and help them learn better.

The learners' vocabulary level prior to the intervention shows evidence that for most Filipino learners, acquiring an extensive vocabulary in English poses a big challenge, as claimed by Carranza, et. al. (2015). In many ways, the vocabulary levels of the learners before and after the intervention was influenced by the intervention made by the researcher using digital games, with similar results to the study of Sandham (2017) about technology's impact on motivation, interaction, and learning. Moreover, this result supports the study of Blachowics, Fisher, & Ogle (2006) which found out that technology particularly enhances vocabulary learning.

How digital games are implemented in an English class. During the eight – week intervention period, the learners were presented with series of digital vocabulary games during their English class. The competency, which is low, evident on the pre – test, is inferring the meaning of unfamiliar words, which made the basis for the intervention. These games were researcher – made and were validated in terms of their relevance to the target skill competency being addressed based on the DepEd Curriculum Guide. The researcher prepared three (3) digital games, namely: *Ramble Jumble*, *Peek A Boo*, and *Pic Flash*, and were used in turn with one game presented each day for the whole intervention period. The games were implemented in the introductory part of the English lessons' procedure used for each day throughout the intervention period.

Difference in the learners' vocabulary scores after the digital games. Following the intervention, the researcher compared the pre-post scores of the

learners. To determine whether there is a difference in the scores of the learners, the researcher used a t – test to assess the means of the two samples. Since the groups come from a single population and the before and after treatment is being measured, the paired t – test was employed.

Table 5. Difference in the Respondents' Pre – post Vocabulary Levels.

	Paired Differences				T	Df	Sig. (2-tailed)	
	Mean	Std. Deviation	Std Error Mean	95% Confidence Interval of the Difference				
				Lower				Upper
Pair 1 Post Test - Pre-Test	32.60606	13.24278	2.30527	27.91038	37.30175	14.144	32	.000

While the learners' pre – test scores were relatively low, the post – test results show that their level significantly increased after the intervention using digital games. This increase indicated that though the learners were not familiar with the words at first, the intervention through the use of digital games, helped in increasing their vocabulary knowledge. The significant difference in their vocabulary levels from pre – test to post – test supported the claim that technology can be helpful in addressing the barriers of second language learning, with focus on vocabulary as the foundation of language. This implies that with the current generation of learners, technology plays a significant role in how they perceive and process information, particularly new and unfamiliar words in English.

Table 6. One-Way Repeated-Measures Analysis of Variance (ANOVA) test of Weekly Vocabulary Post-test Performance (mean percentage) of Grade 5 Learners After Digital Games

	Assumed Sphericity	Not assumed Sphericity (Greenhouse-Geisser) *
F-calc	33.237	33.237
Degrees of freedom (df, Week)	7	4.07
Degrees of freedom (df, error)	224	150.531
p-value	.000	.000
Partial eta squared	.509	.509

*Mauchly's Test of Sphericity ($\chi^2(27) = 56.797, p < .01$) indicates a violation of sphericity, hence, the more reliable model is the one that does not assume sphericity.

Partial eta squared legend, .01 - .05 are small effects, .06 – 0.14 are medium effects, .14 < are large effects

One-way repeated measures ANOVA was employed to check the sustained main effect of digital games towards Weekly Vocabulary Post-Test Performance of Grade 5 Learners. An assumption test, Mauchly's test of Sphericity, was done to check any violation of covariation effects. The results showed that there is a violation of sphericity assumption, hence, a more reliable measure of the significant model is assuming non-sphericity of data. Not assuming sphericity, the results showed that there was a significant main effect of digital games towards the learners' weekly vocabulary performance ($F(4.07, 150.531) = 33.237, p < .01, \eta^2 = .509$). The partial eta squared further indicates that there is a large effect size. This goes to say that digital games as a motivational tool in teaching vocabulary can have a significant effect on learners' vocabulary performance. With the current generation of learners, who live with technology as a significant part of their lives, they are more receptive to language input when presented with technology, particularly digital games. Digital games provide learners with varied opportunities to process information according to their learning preference and style and gives them sense of familiarity with the way the inputs are presented. Hence, using these games to teach vocabulary shows a significant effect on the vocabulary performance of the learners. This implies that using digital games in the 8-week intervention period has a significant large effect towards the grade 5 learners' vocabulary performance. This may suggest the rejection of the null hypothesis (H_0). Accordingly, the data supports the hypothesis that the use of digital games can have sustained effects towards learner vocabulary performance.

Table 7. Pairwise Comparisons (Bonferroni Test) Weekly Vocabulary Post-test Performance (mean percentage) of Grade 5 Learners After Digital Games

	Mean Difference	p-value	95% Confidence Intervals	
			Lower Bound	Upper Bound
Week 1 → Week 2	-.085 ^a	.027*	-.164	-.005
Week 2 → Week 3	-.121 ^b	.022*	-.231	-.010
Week 3 → Week 4	.112 ^c	.003**	.025	.199
Week 4 → Week 5	-.133 ^d	.000**	-.211	-.055
Week 5 → Week 6	-.082 ^e	.019*	-.156	-.008
Week 6 → Week 7	.101 ^f	.027*	.006	.196
Week 7 → Week 8	-.065 ^g	.607	-.027	.157

To test the individual comparisons between the weekly tests, Bonferroni post hoc tests were performed. The results showed that there were significant differences in the post – test performance scores of the learners across week 1 to week 7. However, no significant difference was found between week 7 and week 8. Figure 2 below illustrates a more detailed data, through box plots, the performance of the learners in their vocabulary tests. It is worth to note that there are patterns of fluctuations that can be observed in the data. These fluctuations are illustrated in Figure 2 in relation to the descriptive data found in Tables 7 and 8. While there was a pattern of increase from week 1 to 3 and week 4 to 7, it was shown that there is a considerable significant decrease of vocabulary performance, as evidenced by fluctuating boxes, among learners in every 4th performance interval – the week 4 and week 7 performance scores.

Table 8. Summary Data of Weekly Vocabulary Post-test Performance (mean percentage) of Grade 5 Learners After Digital Games

	M (%)	sd
Week 1	59.82%	15.94
Week 2	68.28%	19.42
Week 3	80.33%	21.43
Week 4	69.13%	21.54
Week 5	82.39%	16.22
Week 6	90.59%	10.45
Week 7	80.44%	17.11
Week 8	86.94%	13.28

The significant drop in the scores from week 3 to week 4, as well as week 6 to week 7 can be attributed to the certain classroom policies and regulations where the learners are allowed to go out of the room during classes while the lesson was going on. It is also important to note that the respondents are not the researchers' own students, but rather, an agreement between the school and the researcher was done that the intervention will be given every English lesson when the researcher will handle the class for a one – hour period. This drop in the scores happened during the days when the school was conducting several extra – curricular activities and most of the learners were involved, thus, they were allowed to go out of the room during discussions and return only for the evaluation part. Hence, the decrease in their scores.

This sudden decrease in the learners' scores indicate that there should be consistency in the application of any intervention and other teaching strategies, as well as in the participation of the target audience. The summary of the weekly vocabulary post – test performance (Table 8) is presented in this study to further clarify the trend of the scores of the learners' vocabulary performance and the certain points in the trend when the effect was not sustained. Moreover, this will provide a clearer picture of the variable that may have caused certain fluctuations in the scores.

This may imply that, while digital games have sustained effects towards vocabulary performance, there are points in the time series where the performance scores will significantly decrease, specifically, at the fourth interval of digital games. Also, owing to the non-significant effect of digital games in week 7 and 8, the results may imply that significant improvements to vocabulary performance may start to diminish at a threshold point -- which in this study was at week 8.

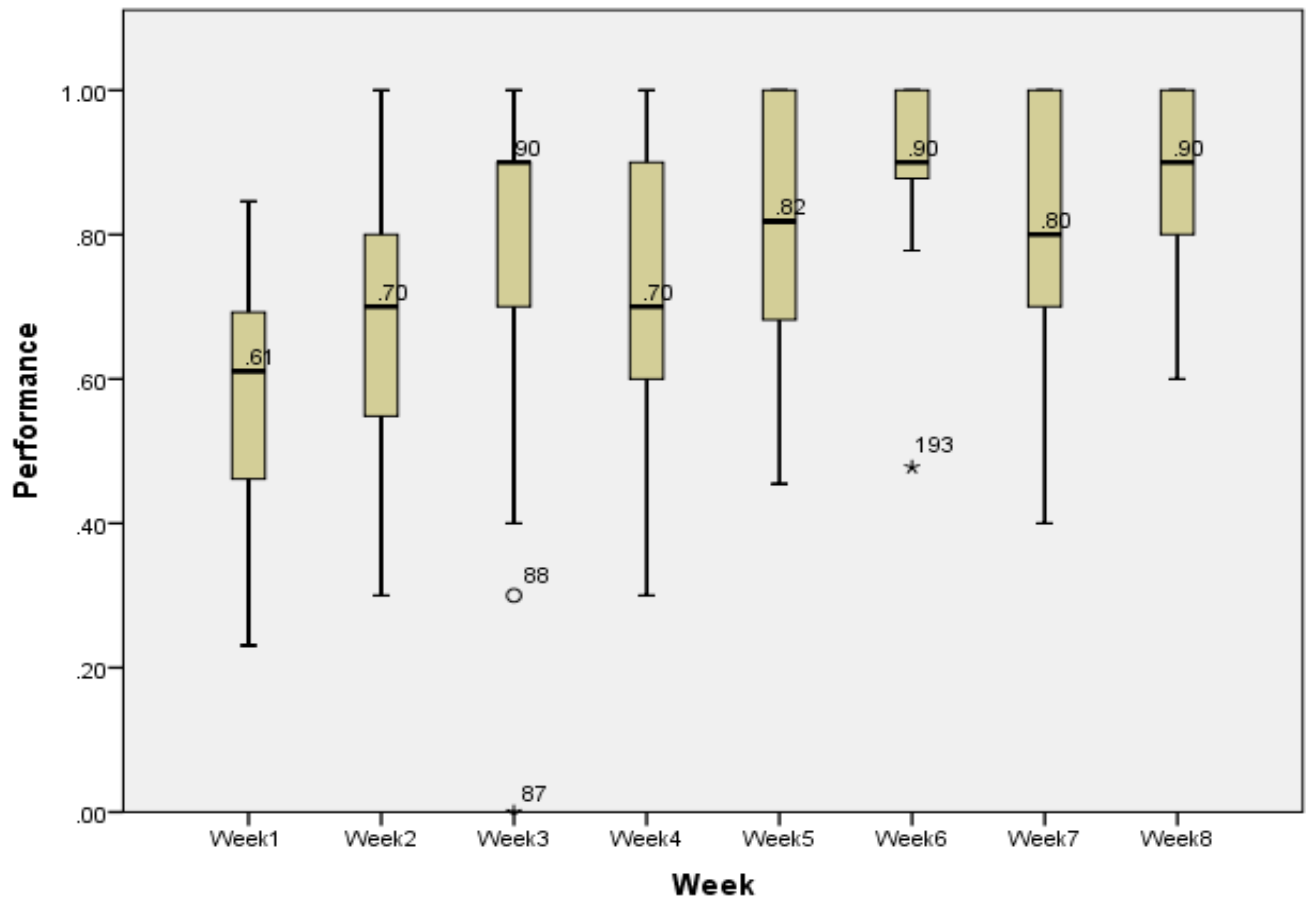


Figure 1. Box Plots of the Vocabulary Performance of Grade 5 Learners after Digital Games

Figure I show the vocabulary performance of the learners after the digital games. The whiskers on the box plots illustrate the range of the scores, while the box illustrates the values within the interquartile ranges of 75th to 25th percentiles. The line inside the box illustrates the median/ mean scores of the vocabulary performance range. This provides a clearer view of the range of the vocabulary performance of the learners as well as the noticeable fluctuations in their scores.

The increase in the learners' vocabulary levels can be directly attributed to technology's impact on how 21st century learners learn. It supports the claim of the advantage of technology in vocabulary learning where learners are more engaged and can relate better to the words presented. In the game *Ramble Jumble*, instead of simply asking the learners to infer the meaning of unfamiliar words, they are presented with jumbled letters for them to rearrange, and a set of clues for them to base their inference on. Additionally, providing more visual and auditory stimuli to young learners which makes it easy for them to grasp and retain the meaning of unfamiliar words, also add credit to the increase in their vocabulary levels. The game *Peek A Boo*, with its combination of picture clues, enabled the learners to interpret visual clues and create new meaning from newly combined words.

The results of this study are also comparable to the study of Lin, Chan, & Hsiao (2011) where they noted that players were engaged with the vocabulary words of digital games, thus helped them increase their vocabulary acquisition. The learners, with their innate connection to anything related to technology, automatically responded to and engaged with the digital games presented. Adding to the fact all three (3) games were presented during the motivation part of the English lesson, this set the tone for the whole lesson with the learners fully engaged in the activities. With most of the words in the games used in the activities for the latter parts of the lesson, they still attained majority of the words and their meanings, as seen in the summary of their vocabulary post – test performance.

This is proof of technology's influence on how learners nowadays acquire and retain information. By immersing themselves in activities that address the needs of their generation (i.e., playing digital games), learners can learn and be familiar with words used in the game. This implies that in a world where technology is a significant part of our everyday lives, learning has since become partly dependent on technological tools being used in the classroom. This

generation of tech – savvy learners learn easily and better when exposed to learning methods that keep them both engaged and excited. With the current integration of educational technology in the curriculum, pedagogical practices revolve around meeting the learning needs of 21st century learners who are set up to absorb input through technology.

The learners' experiences and the teacher's experiences. To know the learners' experiences during the implementation of the digital games, a focus group discussion was conducted together with the learners. A total of ten (10) questions were asked which focus on the familiarity of the learners with the context of the games, their reactions towards the games, and how the games affected their vocabulary knowledge in general. They were also asked to describe their overall experience in class using the digital games in the lessons. The researcher consolidated the learners' responses by themes, noting the patterns and similarities in the learners' responses (see Table 7).

Table 9. Thematic Presentation of the Learners' Responses

Relevant Themes	Supporting Vignettes
Excitement in playing the games	<p><i>"Excited ko maamkadtongpagduwanato ug first time".</i> (<i>"I was excited the first time we played..."</i>)</p> <p><i>"...excited kay gusto namomakabatinapudkuanba new words".</i> (<i>"...excited because we want to hear new words again".</i>)</p> <p><i>"Excited maam kay permanente mi naaymatutunan..."</i> (<i>"Excited because we always learn something..."</i>)</p>
Discovery of new and unfamiliar words	<p><i>"...naka-learn man migmgakuanmaam...bag-o nga words".</i> (<i>"...we learned new words".</i>)</p> <p><i>"...kay nakasabotmakosamga unfamiliar words".</i> (<i>"...I already know the unfamiliar words".</i>)</p> <p><i>"...mas damo pa mig bag-o nga words".</i> (<i>"...we have learned more new words".</i>)</p>
Noise and chaos in the class	<p><i>"Wa ko ganahisakalangas..."</i> (<i>"I did not like the noise..."</i>)</p> <p><i>"Dili ko ganahan kay langas kayo..."</i> (<i>"It was too noisy for my liking..."</i>)</p> <p><i>"Samokusahaymaam..."</i> (<i>"It was chaotic sometimes..."</i>)</p>

During the focus group discussion, the questions were stated in the English language and was also translated to Bisaya for the learners to better understand. They were also allowed to answer in their mother tongue, Bisaya, in response to the FGD questions.

Most of the learners responded that they were excited in playing the games. Though they are not familiar with the game and that the games are still new to them, some admitted that they have played other games before identical to the ones presented by the researcher. Meanwhile, most of the learners responded that they enjoyed the lessons as well, partly because they were able to play with their classmates and also because they got to discover new words. The learners responded that those words that they were already familiar with were easy while those new words that were new to them were found to be difficult. They further added that were some words that they have never encountered before. When asked how they feel about playing games and learning at the same time, most learners claimed that they were happy and excited, but they also feel shy and sad when they don't get the correct answer. When asked to describe their overall experience in the class using digital games in the vocabulary lessons, the learners claimed that they were happy that they get to play games in class.

In terms of the discovery of new and unfamiliar words, the learners claimed that the games have been a big help to them because they have now learned new words in English. In terms of the digital games' effect on their view of vocabulary learning, the learners claimed that their vocabulary knowledge increased, and new unfamiliar words were added to their stock of English words. When asked about the digital games' effect on their vocabulary knowledge in general, the learners claimed that they know considerably more words now than before.

Meanwhile, the learners described the atmosphere of the class as chaotic and noisy because some of their classmates were unruly. However, some claimed that the class gets quiet when they are thinking of an answer to the games. The learners expressed that they were impressed with the games and the new lessons, however, they also raised sentiments that they found the noise of the class unappealing.

Though they admitted that they found the unfamiliar words difficult and challenging, the fact that they were just playing lessened the pressure and helped them remember word meanings easily. This outcome confirms Krashen's Affective Filter Hypothesis which states that learners feel more comfortable and non – threatened when in a less stressful learning environment. The relaxed environment provided by playing digital games while learning vocabulary in the classroom made the learners more receptive towards the language input presented by the researcher. The overall experience of the learners in playing digital games during English lessons made them happier and more excited despite certain disruptive factors during the game (i.e., noisy classmates).

The learners also claimed that the digital games made it easier for them to remember the new words because they feel like they were just playing, and no serious stuff was going on. Playing digital games while learning at the same time works for young learners who have spent their everyday lives exposed to technology. While the learners described the classroom environment as chaotic and noisy during the games, they described their overall experience as exciting and full of learning. Through the digital games, they were able to engage themselves in an interactive and collaborative learning opportunity. This supports what Prensky (2001) claims that newer generations have grown up with digital devices as a core part of their lives. With this, the digital natives of today's generation share a set of characteristics that include the use of digital tools to process information.

The teacher's experiences can be apportioned into three (3) phases, the pre-implementation, implementation, and post-implementation phase. During the pre-implementation phase, the teacher sought permission from the division office, district office, the school, the parents and guardians, and the learners themselves. This rigorous process took some time, but it was a rewarding one. During the creation of the lesson exemplars, the teacher described her experience as a laidback task for the lesson exemplars were simply tailored from the Teacher's Guide. For the creation of the digital games, the teacher described her experience as a laborious one for the games needed to be designed according to the words found in the lesson exemplars and it also needed to address the specific target skill competency. Meanwhile, it was also a learning experience for the teacher for she was able to do something out of her league (i.e., creating digital games).

During the implementation phase, the teacher described her experience as a social one for she got to teach in a new environment with a new set of learners. For the eight – week intervention period, the teacher went to the elementary school twice a week to teach English lessons to the grade five learners. She observed that the learners got excited every time the games were played during the lessons. However, the teacher found it hard to manage the noise when the class gets overly excited. Furthermore, the teacher also observed that the learners were more participative during the part of the lessons that the games were played. There was a natural course of interaction going on inside the classroom while the learners were learning and playing digital games at the same time. But when the games were over, the learners lose their excitement, and they go back to their usual unengaged selves. One major observation of the teacher is that most of the learners weren't familiar with the words in the games and they found it difficult to find the correct word. But when they were instructed to analyze the clue or clues given, they found it easier to deduce the correct word. Furthermore, one limitation that the teacher saw is that despite the obvious need for several gadgets during the game implementation, the teacher was able to provide only one (1) laptop for the whole class to use.

During the post-implementation phase, the teacher conducted a focus group discussion to determine the learners' experiences during the implementation of the games, which gave light to the question of how the digital games affected the learners' vocabulary knowledge. Some of the learners were hesitant to share their experiences in the class but some were also eager to. The teacher discovered that the learners share the same sentiments when it comes to the noise and chaos of the class during the games. However, she also discovered that the learners were equally excited to be able to play with their peers and classmates.

The teachers' overall experience shows that it is important to create a learning environment free from fear and anxiety, while taking into consideration how young learners of today receive and process information.

Overall, the results demonstrate how young 21st century learners respond to input presented when technology is used in the classroom. This confirms what the behaviorists believe that technology is perceived as an incentive for learning. This creates a huge implication on how language should be taught in the classroom, specifically vocabulary. Vocabulary teaching using technology in the form of digital games provides a new avenue for learning for young digital natives who lives in a society run by practiced users of digital technology.

Relevant Proposal (Learning pack)

Rationale

With the evident increase on the vocabulary level of the learners before and after intervention and across its implementation, and based on the results of this study, it is apparent that technology plays a vital part in the teaching and learning of vocabulary in the second language. Though several strategies

have been introduced and used in the classroom to teach vocabulary, digital games' effect on vocabulary learning cannot be denied as to its effectiveness. With the way learners learn in this generation, digital games pave a way for more opportunities for learning language, particularly vocabulary. New strategies have been brought to the classroom that address the barriers of vocabulary learning and address the varied learning styles and learning needs of 21st century learners. A number of these strategies involve the integration of digital technology into the classroom activities. Digital technology, in the form of digital games, immerse the classroom with fun while the learners demonstrate learning goals. Games also allow the learners to be experts in the gameplay while the teacher facilitates learning and collaboration in the classroom. The learning becomes reciprocal as the teacher designs the classroom learning activities using digital games while the learners teach the teacher more about the game while structuring an experience in a way that demonstrate the learning goals.

With this, the following digital games (teacher – made and adapted), are recommended for use in teaching vocabulary, particularly to grade 5 learners. The mechanics of the games are discussed, and sample lesson exemplars are provided.

Objectives

Through the use of these digital games, learners will be able to:

- (1) infer the meaning of unfamiliar words
- (2) recall unfamiliar words and their meanings
- (3) recognize unfamiliar words when used in other learning activities
- (4) determine the parts of speech where the unfamiliar words belong
- (5) use unfamiliar words in everyday conversations

Games

The three (3) digital games used during the eight – week intervention period will be used for teaching vocabulary to grade 5 English learners. All three (3) games address the competency in vocabulary development inferring the meaning of unfamiliar words based on given clues. The three (3) games are *Ramble Jumble*, *Peek A Boo*, and *Pic Flash*(see *Appendix G - Lesson Exemplars and Appendix H – Mechanics of the Games*).

The following digital games are also recommended:

1. *Dictionary Bingo*. This game is anchored on the competency clarifying the meaning of words using dictionaries, thesaurus, and/ or online resources. An online game which can be played by two (2) or more players, this game encourages interaction and vocabulary learning at the same time.
2. *Word Scramble*. This game is anchored on the competency inferring the meaning of unfamiliar words based on given clues. An online game which can be played by one (1) or more players, this game encourages the player/s to analyze clues given to deduce the meaning of words and the words themselves.
3. *Dictionary Quizlet*. This game is anchored on the competency clarifying the meaning of words using dictionaries, thesaurus, and/ or online resources. An online game which can be played by one (1) or more players, this game allows the player/s to explore variety of options to clarify the meaning of a word.

With the need to further increase the vocabulary level of the learners on different competencies on vocabulary development, it is recommended that the following application be used for motivation: *Just Word Games*. This application contains seven (7) games which is anchored on a specific competency and can be used for motivation. The seven games are as follows: Just 2 Pics, 4 Lines 1 Word, Just 1 Pic, Just Riddles, 2 Letters Word, Just 3 Pics, and 4 Clues 1 Word. Just Word Games can be played using an android phone and can be played by one (1) or two (2) players (a dual option).

5. Conclusion and Recommendations

The findings of this study speak volumes of the inimitable impact of digital games in vocabulary learning. It is evident from the findings of this study that the young learners of today's generation absorb knowledge easily when exposed to technological tools which help them learn in a relaxed environment. The findings revealed a significant increase in the learners' vocabulary level after they were exposed to digital games. Playing digital games while learning gives them a high sense of motivation while connecting with their tech – savvy nature. The existence of elements such as motivation in digital games can provide learners with a powerful framework that extends many opportunities for successful vocabulary learning. To sum up, digital games as a motivational tool provide comprehensible input which enables learners to learn vocabulary more meaningfully.

Based on the findings of this study, the following are recommended:

1. Teachers may produce technology – integrated lesson materials for language teaching which are closely aligned with curriculum standards. These will help them provide learners with meaningful content and connect with their tech – savvy nature.
2. Language teachers may make computer technology an integral part of the classroom learning activities where teachers guide and facilitate their learners' learning.

3. Further studies on digital games as motivational tools in vocabulary learning may ensure to improve experimental validity by employing similar natured games or specific games.

4. Teachers may reduce emphasis on academic and social competition in classrooms and schools to reduce fear of failure and to create a stress – free environment.

5. Based on the findings of this study, the following possible titles for further studies are recommended:

Generation X Learners in Digital Game – Based Vocabulary Learning

Digital Game – Based Vocabulary Learning in Remote Areas

Digital Games Vs. Traditional Games in Vocabulary Learning

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