Video Games as Vocabulary Enhancement Instrument in the 21st Century Classroom

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Abstract: In modern era, the use and implement of a new tool in the English as Second Language (ESL) classroom is imperativeas mean of ensuring the effectiveness of the lesson.At the same time the lack of effective technique to enhance vocabulary possession among ESL learners may leadto failure during the learning process. Even though there are too much hideous stereotyping about the video games, but this research still believesin the positive impact that can be delivered by this tool. Therefore, video game is considered asa solid tool that can facilitate and cater the need of the 21st century learners who are craving for technologies. This study reveals the effectiveness of the video games in enhancing young ESL learners' vocabulary in Malaysian context. It is being conducted in a primary school in South of Malaysia which involves two ESL classrooms. The first group was assigned as control group and the later as experimental group. To ensure that the data is normally distributed, a normality test was conducted. Based on the normality test using Shapiro-Wilk, it was found that the data is normally distributed. A parametric test of Paired Sample T-Test is being used to probe into any significant different between the pretest and posttest of the experimental group. The result shows a significant difference. Comparison between the control group and experimental group indicating that the experimental group outperformed the control group. This concludes that, video games are beneficial in improving student's vocabulary performance.

*Index Terms***:** *English Education, Educational Technology, Video Games, 21st Century Classroom*

I. INTRODUCTION

One of the integral parts in English Language competency is the vocabulary. (1)mentioned that vocabulary is a list or a set of words speakers of a language use. (2)said Anglo-Saxons consider vocabulary are valuable words and need to be treasured. The comprehension of our communication is highly dependent on the choice of words retrieved from our own vocabulary. Thus, the lack of appropriate vocabulary will interrupt our process of communication due to the bad choice of word.

The same problem occurs in primary English as Second Language (ESL) classroom in Malaysia. The learners are lack of vocabulary since they are not used to be in dailylife environment thatrequire them to use and possess appropriate vocabulary that they should acquire. Che Musa, Yew Lie and Azman (2012) reported that the cause of limited proficiency among Malaysian students are English only being used in English classroom, limited access to English reading materials and lack of support to use English. This problem might demotivate ESL learners to learn English. They might consider English is hard and difficult for them since they are not able to acquire sufficient vocabulary to convey simple messages or completing simple task. It could render low self-esteem in English and then may cause failure in learning English language. In contrast, English is significantly emphasized by Malaysian Education system and at the same time is highly demanded in workplace.

Thus, a solution to this problem is needed to fulfill the inspiration of Malaysian Education system. One of the ways to overcome this problem is by implementing the right tool which can stimulate ESL learners' interest and at the same time motivate them to be more participative in the activity that being carried out in the classroom. By engaging themselves with the teaching and learning process, it can help them to acquire and at the same time to enhance their vocabulary.

In a nutshell, this research will tackle the issue of vocabulary possession among primary ESL students and introducing the tool which can help learners to learn English better since they can learn in the supportive environment which can increase their motivation and at the same time will enhance and develop their vocabulary.

A. The Importance of Vocabulary

Vocabulary is a vital part of a language. In order to competent in language, ones should have sufficient vocabulary to communicate with that particular language. This research believes that in English language, the mastery of vocabulary is a must in order to acquire English language especially among second language learners.Grasping or mastering vocabulary is a tough task for all learner when learning another language (3). It is not an easy task to master or acquire sufficient vocabulary in English Language, but the failure of mastering adequate vocabulary will make the learners struggle in learning English language especially for the ESL learners.

In English language learning, learners who are lacking vocabulary not just fail

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to master the language, but they will struggle at the basic part of the language learning process. The learner will face a great difficulty in understanding word, phrases and sentences due to the lack of vocabulary possession in English language. As proposed by (4) "vocabulary is a core component of language proficiency and provides much of the basis for how learners speak, listen, read and write". Furthermore, in learning grammar, (5) suggested that "Grammar can be taught traditionally or contextually…". Traditionally means teacher will explain and tell the learners about the grammatical rules while contextually means the learners will learn by example of the real context when the grammatical rule is being used. Without having enough vocabulary of course, the learners will face another difficulty when they start to learn the basic rule of grammar in English language. Basically, at this phase the learners need to acquire the skill of classifying and categorizing the words according to the category such as common noun, proper noun, verb and adjective. Clearly, learners who are lack of vocabulary will fail and struggle to do so because the vocabularies that they acquire are insufficient and inadequate to convey the message and at the same time to complete the task.

It is undeniable that to acquire the second language is harder than acquiring the first language. Therefore, it can be assumed that mastering basic vocabulary is a substantial progress for second language learner (6). In Malaysian context which most of the citizen use Bahasa Malaysia as their first language, acquiring English language is not a simple task (Che Musa, Yew Lie and Azman, 2012). The students need to learn, use, practice and relate with the real context in order to acquire it. However, it is difficult for ESL learners to find a supportive environment which can accommodate them with the proper environment that they need in order to learn and acquire English language.

Briefly, we haddiscussed how important the possession of vocabulary among ESL learners. But the big issue is what is the great approach or tool which can be integrated in ESL classroom in order to entertain this issue?

B. 21st Century ESL Classroom

The ESL classroom today has to entertain the learners who are from this century. The 21st century learners are unique and require different approach by teacher in ensuring the effectiveness of teaching and learning. They are well blended and integrated with technologies. The fast development of ICT requires a different paradigm of need related to literacy in ICT and technologies (Voogt and Roblin, 2010). The 21st century learners are very familiar with technology and most of them have made it as one of the most integral part of their life. Brown (2002) in Learning in a Digital Age, "Today's digital kids think of ICT as something akin to oxygen; they expect it, it's what they breathe and it's how they live."The ESL teacher should take this as advantage and make full use of this opportunity to integrate them in the ESL classroom.

Besides that, the 21st century learners like to be in control. They learn with their best by driving their own direction in the learning process. They are unlikely want to learn in the traditional ESL teaching and learning process. They want to make decision in their learning process, and they want to play a major role in the learning process. They want to produce and use their own product in the lesson. This is hardly can be fulfill by the teacher with the traditional approach or strategy. The failure of fulfilling this criterion will lead to the lowparticipation and interest in learning English Language. The worst part is when the learners feel demotivated in learning English Language. At this point they will totally detach their self from the learning process which can lead to the total failure in learning English Language.

The learners in 21st century is group oriented and social. They also are easily being influence by the environment where they are into it. In 21st Century learning, teacher is capable of exposing students toward collaborationas students are subject toward gathering information, solving problems, sharing their ideas and finally generating new ideas (Beers, 2011). At this point, it is hardly to find a good environment which support 21st century ESL learners to use the language. In Malaysian context finding English language environment is not a simple task for the ESL learners. But at the same time, they need to learn, use, practice and relate the English language with the real context in order to acquire it. However, the problem is – Where the ESL learners can find the supportive environments which accommodate them with the proper environment that they need to learn English language?

C. Games – Tools to Enhance Vocabulary

In order to educate and entertain the 21st century learners in developing their vocabulary in ESL learning, the right tool must be used to help them to enhance and develop their vocabulary. The tool must stimulate ESL learners' interest and at the same time can motivate them to be more participative in the activity that being carried out in the classroom. By engaging themselves with the teaching and learning process, it can help them to acquire and at the same time to enhance their vocabulary.

In this particular research, video games will be used as a tool to stimulate and enhance learning. This research will use avideo game. This game will give the opportunity to the primary ESL learners to develop their vocabulary since it has a vast number of vocabularies from noun, adjective and etc. Besides, in this game the learners can find a lot of action that can be done by the character in the game. Indirectly the learners learn the word and also the meaning of the words. The virtual environment and the features which support English learning environment in this video game will be beneficial for the primary ESL learners to enhance their vocabulary.

In a nutshell, this research will tackle the issue of vocabulary possession among primary ESL students in this 21st century. The implementation of video games as a great tool in 21st century primary ESL classroom can help the ESL learners to learn English

better since they can use the technology in the ESL classroom. Besides that, the ESL learners also need to be participative since they have to be in control and explore the tool during the learning process. They can learn in a supportive environment which can increase their motivation and self-esteem in learning English Language. At the end of this study, the possession of vocabulary will be evaluated and assess to see the effect on the ESL learners when they use this treatment.

II. LITERATUREREVIEW

A. The 21st Century and the Use of ICT in Malaysia Classroom

The 21st century is the new era. It is emerged as the inception of the Digital Age that excite rapid development of technology that fuel the information explosion (7). The generation who were born in this era is quite different from the past era. They also have known as digital natives' generation. (8) has listed the instruction that meets the need of digital natives' students, it can be summarize as having the criteria of offering several learning opportunities, using technology to facilitate learning, implementation of project-based and problem-based learning, driven by investigation and inquiry approach, environment that facilitate and foster collaboration, demanding visualization and formative assessment.

(8) also suggested that the role of teacher in 21st century classroom is shifted from expert to the facilitator. This is because in the 21st century classroom technologies in education being manipulated by the students to access new situations to apply their knowledge, analyzing the information gathered, working in collaboration with each other, solving problems and take the responsibility of making decision (Razali and Shahbodin, 2014).

Furthermore, the Information and Communication Technology (ICT) had transform and innovate the way we have our daily life (9). In Malaysian Education system, the government through Ministry of Education (MOE) always promotes the usage of ICT in the classroom. This shows that the government wants ICT to be inculcated in the learning process in Malaysia Education system. Besides that, to show the government really concern about the ICT in education they have invested heavily toward these initiatives.

There are a lot of benefits of ICT in classroom learning. Among them is acting as corridor of information, giving students impression that they are in control of their learning(10). She suggests by integrating ICT skills is the best approach to prepare students for their incoming working life.However, the usage of ICT in school face some problem. (10)has address three main issue of this problem.

1. The time ICT should be implemented and how it should be done.
2. Teacher need adequate training in using ICT as well as guide on the strategy to implement ICT as a pedagogical tool.
3. Reliable Internet access is vital in ensuring the usage of ICT.

III. METHODOLOGY

As stated earlier in this paper, the objective of this research is to identify the effectiveness of video games in enhancing English vocabulary among the 21st century ESL learners. Generally, from the objective, the most suitable research design for this research is the experimental research design. This design is being choose because this research will compare two different group and also to evaluate and assess the effectiveness of a treatment on performance. In this research, the treatment is video game while the performance will refer to how advance and enhance the vocabulary after the treatment.

After considering the samples that will be participating in this research are not randomly selected, this research had conducted as quasi-experimental research. The respondent cannot be randomly assigned into equivalent groups and will be purposely selected by the researcher to test the effectiveness of video game in enhancing ESL learners' vocabulary. There will be 2 groups of samples in this research which will be treated and see the changes. The samples are the students from school labeled as schoolX. They are being chosen because all of them share the specific characteristic that this research needs which is, they are the ESL learners in Malaysia Primary school. Samples from class B will be treated as the experimental group while samples from class A will be the control group. Both of this group share almost similar characteristic in term of the English Language performance. The previous examination shown that no one from these 2 groups scores an A in English Language subject. Below is the figure of how the sampling method being conducted.
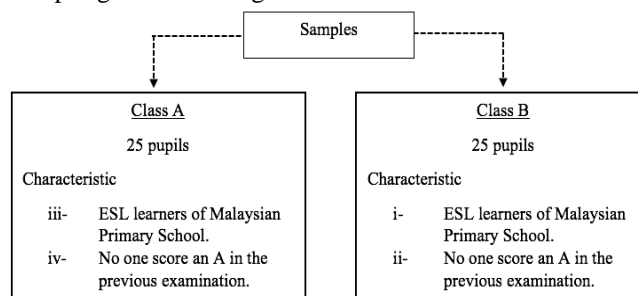

Fig 1. Samples for this Research

This research was conducted in 1 month separated into 6 phases. First of all, the samples were divided into two groups. The first group is the control group which is labeled as Class A while the second group will be the experimental group which is labeled as Class B. At the first phase the samples from both groups will be given with a pretest question. After that, the data was recorded accordingly. The second phase, the treatment is being introduce and the implementation of video game as a tool in enhancing the samples' vocabulary is being implemented in this particular primary ESL classroom. The most important thing is, only samples from the experimental group will be participate in this phase while the sample from the control group will be having their traditional ESL lesson as usual. In this phase, the sample from the

experimental group will be given a daily task that they should complete it within that particular English period. The samples used the tool for 3 hours per week.

Next, after three weeks of using this tool, the samples move to the next phase. In this phase, all samples from both control and experimental group have to sit for a posttest to see their development after or without treatment. Then the data was collected and recorded. In the fourth phase, the samples answer questionnaire right after answering the posttest. Again, both groups need to answer this questionnaire. Then, the data was analyzed in fifth phase by using the descriptive analysis of central tendency and the Paired Sample T-Test. Lastly, in the sixth phase the data was interpreted, and the result of this research will be discussed thoroughly.

A. Sample and Population

This research uses non-probability sampling techniques and to be more specific this research uses purposive sampling. The purpose of using this sampling technique is to choose the sample with the same characteristic. The same characteristic being chosen among samples in this research is all of them are English as Second Language Learners who are study in the same school.

All of them were born in 2006 which put them under 21st century generation. There are 25 students in Class A consists of 12 boys and 13 girls. In Class B, there are 25 students consist of 10 boys and 15 girls. They are from varies social economic status. This is an intermediate ESL classroom which none of themscore A in the past examination. The research will cover the development and enhancement of their vocabulary in English classroom after the intervention of video game in English classroom.

There are some differences between the samples and it just the independent variables which cannot be manipulated. As example, the samples are from different classes.

B. Instrumentation and Data Analysis

As being discussed in the procedure of the research earlier, this research will use pretest and posttest. The pretest was determining the possessed vocabulary of each sample before the treatment being conducted. In the other word their prior vocabulary which is based on their prior learning or experience of using the English language before this study. The pretest was conducted in quiz format, the samples need to answer a set of multiple-choice questions using an online quiz application which isKahoot!

After the implementation of treatment to the samples in the experimental group, the posttest will be conducted. This is to evaluate and see the changes of the vocabulary possess by the samples after being treated. As the pretest, the samples have to answer a set of multiple-choice questions using an online quiz application which called as Kahoot! Again, the data of this test will be recorded.

In data analysis part, the data being collected from the research will be analyzed in detail. First of all, the Levene's Test was conducted in order to ensure that both groups are not difference in term of vocabulary possession and consequently they are comparable. Later, the data collected

from the pretest and posttest will be analyzed, and the central tendency of each test wascompared to see the differences between the data before and after the treatment. The Shapiro Wilk Test was conducted in order to ensure the data distributions are normal and eligible for the parametric testing.Paired Sample T-Test was conducted to probe into any significant difference between data analyze in order to confirm the effect of the treatment towards the possession of vocabulary among the samples.This can decide whether the treatment give a positive impact towards the dependent variable which is performance or the enhancement of vocabulary among ESL primary students.

IV. RESULTSANDFINDINGS

The data from the control group is as follow:

Table 1: The Control Group Data

No	Test	Correct Answer (%)	Incorrect Answer (%)	Score Mean
1	Pretest	58	42	5.84
2	Posttest	34	66	5.08

Based on the data above, the samples from the control group shown a decrement in term of correct answers in each instrument. The correct and incorrect answer columns are the percentage of the score by all 25 samples in this particular group. In average there are 58% for correct answers in the pre-test while 34% for correct answer in post-test. The data from experimental group is as in Table 2.

Table 2: The Experimental Group Data

No	Test	Correct Answer (%)	Incorrect Answer (%)	Score Mean
1	Pretest	31	69	4.24
2	Posttest	64	36	9.36

Based on the data above, the sample from the experimental group shown an increment in term of correct answers in each instrument. The correct and incorrect answer columns are the percentage of the score by all 25 samples in this particular group. In average there are 31% for correct answers in the pretest while 64% for correct answer in posttest.

A. Normality Test

To ensure that these data are actually normally distributed. Researchers had performed Shapiro-Wilk test. The result of Shapiro-Wilk test is as in Table 3.

Table 3: Normality Test

	Kolmogorov-Smirnov			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Pre-Test	.226	25	.002	.932	25	.099
Post-Test	.124	25	.200*	.976	25	.805

For the pretest, since the p-value = .099 we retain the null hypothesis that the data are normally distributed. Meanwhile, for the posttest the p-value = .805 we retain the null hypothesis that the data are normally distributed. This mean the data is eligible for parametric testing.

B. Paired Sample T-Test

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As mean of measuring the differences between the pretest and posttest of the experimental group. A paired sample t-test was conducted. The result is as in Table 3 and Table 4.

Table 4: Paired Sample T-Test

Test	Mean	N	Std. Deviation	Std. Error Mean
Pre	4.24	25	1.88	.38
Post	9.36	25	2.75	.55

Table 5: Paired Sample T-Test

	Paired Differences					t	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
				Lower	Upper			
Pretest Posttest	-5.12	2.86	.57	-6.30	-3.94	-8.94	24	.000

The Sig. (2-Tailed) value is 0.000, p < 0.05 there is a statistically significant difference between the pretest and posttest of the experimental group.

V. DISCUSSION AND CONCLUSION

A. The Relationship Between the Usage of Video Game in ESL Classroom and the Enhancement of Vocabulary Possession among ESL Learners

In order to see the relationship between the usage of video game in ESL classroom and the enhancement of vocabulary possession among ESL learners, researchershave conducted a paired sample t-test. Prior to conducting parametric test, the researcher had conducted normality test to ensure that the data set are normally distributed. Shapiro-Wilk test and Kolmogorov-Smirnov test were conducted but only Shapiro-Wilk test being considered due to the small sample size. As Shapiro-Wilk is suitable for smaller sample size, the researchers had opted for Shapiro-Wilk. The result shown the data is compatible for parametric tests.

Next, the paired sample t-test is being conducted for the experimental group and the result shown that there is a significant different between the pretest and posttest of the experimental group. Itreveals that the treatment give impact to samples. Further probe into the data show that the posttest shows greater mean than the pretest, indicating significant improvement among samples after the treatment.

The positive impact might be due to video game able to offer meaningful and efficient alternative compare to traditional classroom.(11)convince that video games offer better in preparing manpower for modern workplace than the traditional approach. Yet, what importance is the ability of video games to recreate the new or artificial world that catalyze deep learning at the same time.

B. The Effectiveness of Video Games in Enhancing the Vocabulary Among ESL Learners

Another big question in this research is to decide whether the video game is an effective tool in enhancing vocabulary. Yes, based on the result being discussed, we can see that it gives a positive impact towards the sample after using it which means it is an effective tool. However, we also have to decide to what extent it is effective on this particular area.

In order to decide it, we have to look at the sample mean score for posttest of control and experimental group. It shows a great difference between these two means. The sample mean after the treatment for the control group is 5.08, in comparison the experimental group show means of 9.36. It can be concluded that using video game is effective in enhancing ESL learners' vocabulary possession, a well design video game able to give deliverable outcomes as suggested by Gee (2009).

C. The Benefits of Using Video Games as a Tool in Learning English as Second Language

Video game has its own features and characteristic. In this research, researchers found that, the video game provides contextual learning environment for learning. Using video game justify the demand of ICT integration into contextual learning. It provides a real context in form of virtual world with samples engaged contextually. It open opportunity for ESL learners to perform impossible activities in real life to be done in the safety and convenience of virtual world. The researchers consider this as one of the factors that explain the development among the samples.

Factor that impacting the process of learning is motivation. Motivation play vital role in deciding the success or failure of a learning. Thus, demotivation should be avoided in learning with video game. The unique ability of video game is that it motivates learners to enhance their vocabulary possession. In the video games we had implemented in this research, require samples to complete their mission. For this, they need to understand the instruction as well as have a considerable amount of vocabulary. Motivation and engagement are highly demanded during the learning process. This further being reinforce by the finding that samples score a good result in the posttest. Video game stimulate learner's intrinsic motivation that vital in ensuring learners' engagement in task to enhance their capabilities(12).

Samples engagement with the video game not only limited toward let them play and enjoy the content of the game. In addition, a through planning and instruction strategy must be in place as mean of achieving the objective of the lesson. If everything run as planned, at the end of the lesson it might be something that can bridge the connection between the enjoyment and knowledge in real life. In the other word a meaningful lesson did not just stop in the classroom but also

can be useful in the real life. Traditional approaches emphasize on rote learning and not focusing on engaging learner or fostering their thinking level. As education evolve, engagement being the center of education to render a meaning learning.

VI. CONCLUSION

Based on the discussion being presented, it is clearly shown that the video game is an effective tool in order to enhance learner's vocabulary possession in learning English language. It is a great and effective tool that can be integrated in the real ESL classroom in order to replace the traditional way of acquiring the vocabulary which is more time consuming and a bit boring. However, teacher must play their role to facilitate the learning process while the learners manipulating the benefits which being possess by the video game in order to ensure that the tool is really works meaningfully and not being abuse by the learners during the learning process

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