

FOSTERING STUDENTS VOCABULARY MASTERY THROUGH COMPUTER GAMES

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***Abstract** - This study was to find out the extent to which computer games is applicable and influenced classroom practices and students' performance. The study recorded the implementation of computer games in order to find the improvement in the teaching learning process, including students' improvement in vocabulary mastery. The data were gathered from classroom observations and interview. The analysis showed how computer games gave an improvement in teaching learning process. It provided opportunities to practice and use the language, as well as stimulating students' interest to participate in the classroom activities. They made noticeable progress in their language learning while gaining confidence in vocabulary mastery. In short, this study showed that computer games promoted students active participation in the activities with more opportunities to practice and use the vocabularies which in turn increased their positive attitude for language learning.*

***Keywords:** computer games, vocabulary mastery, improvement.*

I. RESEARCH BACKGROUND

University students are considered as a higher level student who have better materials understanding compare to the lower graders. However, for ESP teacher who teach English for specific purpose, the difficulty of teaching English is still more or less the same with teaching English to lower grader. As found in the researcher's daily teaching, it was difficult for the students to understand the meaning of some expression and words due to the lack of vocabulary mastery. All this time in teaching vocabulary the teacher had used memorizing and modeling techniques. However, those techniques did not provide better result in vocabulary learning. The students were not showing significant improvement. Thus, the problems let them not to have a good achievement in English class which can be seen from the mean score of their daily quizzes.

Looking at the changing teaching style in the recent century, it is inspired the researcher to make a change in her daily teaching as well as finding the solution for the problem above. The researcher need to motivate their learners by appealing to their interests and making their lessons relevant to the specific needs of the learners. Therefore, bringing technology into the classroom finally become the

decision to be used. In fact nowadays, the goal of digital or multimedia learning material is to assist learner to achieve best learning performance through effective instructional strategies applied in the learning material. As Groff (2013) states teachers must be able to construct robust interdisciplinary materials where students are gaining digital literacies, collaborative problem-solving, creativity and many other skills, while interacting with the latest technologies. Therefore, in order to overcome the problem the researcher had decided to use technology into the classroom which is computer games.

Past researches indicated that computer games do improve the students' vocabulary mastery. Khatibi and Cowie(2013) found in their study that interactive computer games can be used in language learning which has shown to have a great impact on the youth of today. Yulianto(2010) also mention that through computer games students in fact did not get bored with the lesson and it improved the students' vocabulary mastery. In line with Yulianto, Neyadi(2003)also found that using games and activities to practice vocabulary enhances students' ability to memorize words,stimulate student interaction, and enhances student motivation. Furthermore, Learners will be exposed to formal and informal contexts of learning through the provision of a meaningful context for them to learn vocabulary (Bakar & Nosratirad, 2013).

In this research, computer games used was the games downloaded from www.gamestolearnenglish.com which contains many interactive activities for students to improve their vocabulary. Those games provided words and pictures which has to be sorted and matched in routines that require students to examine, discriminate, and make critical judgments about speech sounds, word structures, spelling patterns, and meanings (Bear, Johnston, Invernizzi, & Templeton, 2006). Those activities build on what students can do on their own. Thus, the more they deal with vocabulary, the more they can keep them in their mind. In addition, this approach meets the challenging task constantly faced by language teachers that is how to capture the interest and to stimulate the students' motivation to learn. Therefore, this study tried to foster vocabulary mastery of Nutrient student at PoltekesKemenkes Pontianak. It is believed that the games can serve as a tool to teach ESP for Nutrient students. Through this study, it is hoped that the result will be used to assist teacher's instruction, and facilitate the implementation of instructional strategies for the students by using computer games.

II. LITERATURE REVIEW

Techniques in Teaching Vocabulary

There are three main parts or namely stages in teaching vocabulary. The common techniques used in each stage will be explained briefly.

Techniques in Presenting Vocabulary

According to by Thornbury(2002) there are variety of techniques that can be used or combined in introducing vocabulary. They are using pictures or flashcard, translation, action/gesture, definition and situation. According to Doff as cited in Kim (2010) those techniques can be formed into four categories. Those four groups are as below:

- Showing the meaning of words visually. This was the most common way in the very first stage to present meaning of a new word. This group involves using pictures (mostly for concrete words); using realia (the real object to bring to classroom); or using mime (demonstrate meaning of the word by actions or facial expressions).
- Showing the meaning of words in context. This technique is performed by using examples, situation or explanation. This is most commonly used for abstract words, which appear to be inexplicable by using visual aids.
- Using synonyms and/or antonyms. This depends on the familiarity of the word that teacher is going to present in class.
- Translation. This is sometimes considered to be a traditional way but turns out to be an effective use within classroom context. Showing meaning of a new word by using translation can be quicker and easier for teacher so that time for other activities can be saved ultimately.

Normally, as also suggested by Doff as cited in Kim (2010) a combination of the techniques mentioned in four groups above should be implemented when it comes to the effectiveness of presenting meaning of new words. This is because of the reason that each technique when combined will reinforce and support the others; thus, making the presentation of new words clearer and more efficient.

Techniques in Practicing Vocabulary

For practicing vocabulary, as mentioned in *How to teach vocabulary* by Thornbury (2002) there can be a variety of tasks which can be used in order to help moving words into long-term memory. Those tasks, require learners to make decisions about words and they can be divided into five types in order of least cognitively demanding to most demanding:

- Identifying;
- Selecting;
- Matching;
- Sorting;
- Ranking and Sequencing.

Identifying tasks involving tasks of finding words in texts. “Listen to the animal sound you hear and then tick the name of the animal on the list” can be one obvious example of this type. Identification is the first step in recognizing words and requires learners do task in which they have to search for words in the ‘words soup’ or when they have to unscramble words as in anagram (Thornbury, 2002).

Selecting tasks, as clearly stated by the linguist is “cognitively more complex than identification tasks”. For selecting tasks, learners will have to do recognizing words and making choices amongst them at the same time. Finding and odd one out is a common task that teachers may often use in class for checking comprehension. Apart from recognizing and making choice amongst words, learners are also requested to do *matching* tasks. In this kind of task, learners may need to pair a set of given words to a “visual representation”, for example, or to a translation, a synonym/antonym, a definition or collocates. (Thornbury, 2002)

By grouping words into different categories, learners are being asked to do *sorting* task. It should be noted that the categories can be given in advance or learners have to guess what the categories are. The most cognitively complex and demanding tasks in this stage are *ranking and sequencing* activities. Different from sorting when learners merely putting words into categories, in ranking tasks, they may have to put words into unfixed order, often created by learners’ preferences themselves. One clear example can be “what to buy first for an empty house?” (Thornbury, 2002)

Besides Thornbury, Hendrich also presented types of activities for practising the active vocabulary as cited in Juříčková(2006):

- Naming objects. It is restricted to an opinion (factual, pictured), but it is interesting, particularly if it is well organized in the classroom. It is most often used at initial level.
- Completing words into context. It can be used at all learning levels with adequate degree of difficulty.
- Word formation according to an example.
- Word assembling according to the word classes.
- Word assembling according to certain topic.
- Modification of collocations or sentences with substituting new expressions.
- Answers on questions formulated that way that a learner must use certain expression in the answer.
- Translation of individual words into the foreign language, but completed with a set phrase or setting into the context.
- Translation of set phrases, short sentences or longer wholes into the foreign language.

For practising the passive vocabulary, He usually recommended:

- Reading (with abundant repetition of the easiest passages).
- Translation of lexical items or sentences into the mother tongue, or an estimate of meaning according to the context.
- Writing out of a certain expression from the context.
- Different word assembling according to certain criteria.

Types of activities for practising vocabulary presented by Thornbury and Hendrich above, both require the students to have various activities to practice vocabulary. Those activities build on what students can do with their own. Furthermore, those activities facilitate the students to deal with vocabulary over and over, thus it leads them to learn and retain the words.

Techniques in Consolidating and Revising Vocabulary

The final stage, as further recommended by Thornbury, highly involves production tasks in which learners after having made decisions will actually produce something as a product of their own. In this way, learners will turn words from receptive to productive and put them into long-term (Thornbury, 2002). For production tasks, there are two major types that teachers may have used them very often namely: completion and creation (both are of sentence and texts).

Sentence and text completion tasks are generally known as gap-fills. In gap-fills, the distinction between open and close gap-fills is necessarily noticeable. In close gap-fill, words are provided in advance whilst in open gap-fill, learners have to fill in basing on their amount of lexical items. For completion tasks, there varies a number of instruction such as: complete the text by writing an appropriate word in each space; choose the best word from the list to complete each sentence. Use each word once; or choose words from the text you have just read to complete these sentences, etc. For creation tasks, such typical instructions are used: choose six words from the list and write a sentence using each one; or write a short narrative (dialogue) which includes at least five words from the list, etc.

Based on the explanation above, a number of techniques can be adapted to present new vocabulary items. Thus, it is important for teachers to facilitate students to participate in different task-based activities in their classroom in order to learn and retain new words. Those activities should be focus on helping students to develop and use words in different contexts by making the lessons enjoyable. Some techniques are more popular and more often used than others. Therefore, it is the teacher rights which techniques he or she decides to use but for sure the effectiveness of teaching should be considered.

In conclusion, an English teacher has to know various techniques of teaching vocabulary. It is conducted to make students understand to use words that the teacher has presented. It is not only to assist the students to grasp the meaning of new words easily, but also to make the variation of teaching in order to avoid the passive class. Thus, the techniques that will be applied to young learners should be interesting, motivating, yet challenging techniques.

Game in Language Teaching

Emerging game in language teaching is fun activity which facilitates learners to gain the opportunity to practice the foreign language in enjoyable way. Using games in teaching is not only fun and motivating but provide excellent practice to improve pronunciation, vocabulary, grammar and the four language skills. Educationally, games are used as a vehicle to engage students in the learning process. As Miller (2008) mention that games are used to drill facts, connect ideas, or help students synthesized discrete knowledge. Therefore, using games in teaching is important which teacher should consider it as a one of English teaching methods.

Concerning with language learning especially vocabulary, many experts of language teaching methodology agree that playing games is a good way to learn vocabulary. According to Wright, Betteridge, & Buckby (2002) games help the teacher to create contexts in which the language is useful and meaningful. The teacher can create various contexts in which students have to use the language to communicate, exchange information and express their own opinions by using games. They have also figured out characteristics of games that make vocabulary learning more effectively. When students want to take part, they must understand what others are saying or have written. They must speak or write in order to express their own point of view or to give information. Thus, games provide one way of helping the learners to experience language rather than merely study it.

Students can learn more as they play with materials and interact with others when they can create a communication in using the language. That is why students like doing something using any games. It implies play as an important part in student life. They might not realize that by playing game they are learning something about language. When using a game as part of lesson, it is important to make sure that the way in which it is played the interaction among the players and the role of the teacher. Thus, using game in teaching has a great educational value and the writers in many educational books clarify the real importance of involving games in teaching.

There are some advantages of using games in the classroom stated by Leeas cited in Rahmanda (2009):

- Games are a welcome break from the usual routine of the language class.
- They are motivating and challenging.

- Learning a language requires a great deal of effort. Games help students to make and sustain the effort of learning.
- Games provide language practice in the various skills- speaking, writing, listening and reading.
- They encourage students to interact and communicate.
- They create a meaningful context for language use.

Based on the advantages above, it can be seen that the use of game facilitates the student to get involved in learning process, so it can develop not only motivation but also the aim of learning. It also promotes the student to have enthusiasm in learning. Besides, many games are very easy to play, that is why it helps student to learn fast and effectively. By giving something interesting and funny makes children attentively focused on the process of learning. Because of that situation children are not under pressed by the threatening situation and they will feel free to involve in learning process. Finally they can get the aim of learning by keeping on learning and giving attention to the lesson.

In addition, games can help students to think more clearly. Game offers the students to enrich their knowledge and make student to be more active. This circumstance is interesting as well as challenging to students. So, by using game students can accept the lesson easier and faster in a fun way. It is very suitable for the students' characteristics. Students can learn more as they play with materials and interact with others which they can create a communication in using the language. In conclusion, games are useful and effective tools that should be applied in the classroom particularly in language learning.

II. METHODOLOGY

In order to find the improvement in the teaching learning process, it could only be achieved through action and reflection, thus it leads the researcher to use classroom action research. According to McNiff & Whitehead (2006) action research is an approach to professional enquiry that enable practitioners themselves investigate their own practice and evaluate their work. Furthermore, they claim that teacher can develop professional competence as well as improve students learning through action research (McNiff & Whitehead, 2006). In line with McNiff and

Whitehead, Elliot (2013) states that action research is perfectly compatible with the idea of teacher as a manager who evaluates his/her teaching in terms of its effectiveness at producing desired learning outcomes.

Using Classroom Action Research (CAR) as research design, this study was conducted to investigate the improvement of the teaching learning process, particularly fostering students' vocabulary mastery through implementing computer games. The participants of this research were the fourth semester Nutrition students at Poltekkes Kemenkes Pontianak in academic year 2013/2014. The numbers of the students were forty six. Most of them are real beginner (of English) and the rest are lower intermediate. They are ESP students, thus they need specific competences to be acquired. Therefore, the materials should be appropriate with the specific language they need. The data were gathered from classroom observations and interview. Furthermore, the result of the research might be used to solve the problem, improve the practices, or help to make a decision after the process.

III. FINDINGS AND DISCUSSION

FINDINGS

This classroom action research was conducted in three cycles. Each cycle consisted of planning stage, acting stage, observing stage, and reflecting stage. The acting stage of the each cycle was conducted in two meetings. It was performed during the teaching and learning process. In teaching and learning process the researcher rolled as the teacher. In every cycle, the students looked very enthusiastic when they played the games. Every member was impatient to take her or his turn to play and find the correct matches of the words and pictures. Every member also did a good job as a teammate. Thus, the game allows them to build and maintains their vocabularies due to the repetition process. Furthermore, they learnt more as they play with words and interact with their friend which they can create a communication in using the language.

In the first cycle, during the process of matching the picture, the students were really enjoying the game. Most of them looked enthusiastic to compare, contrast, and then decide which picture will be on the categories. Although, they faced difficulties in the process due to not knowing some meaning of word, yet the students were showing their excitement when they were playing the games. In the

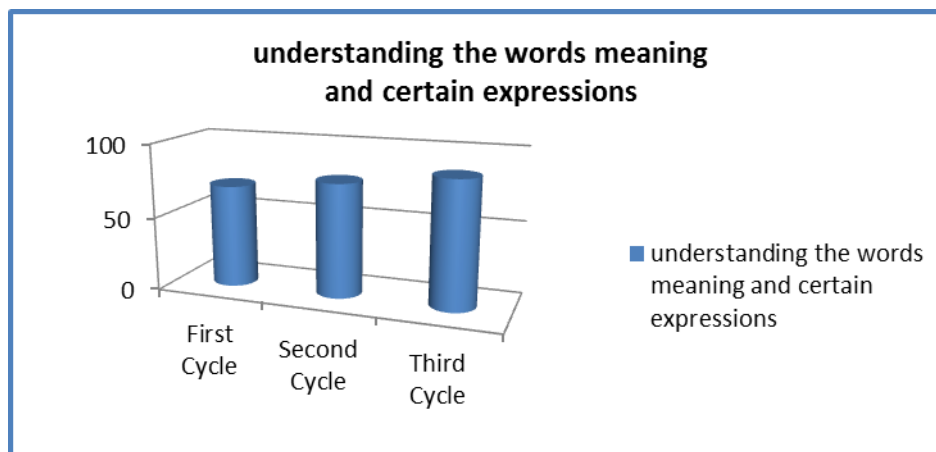
second cycle, there were some improvements. When the students were playing, each group already knows the meaning most of the words. So, it was easy for them to classify the words in the right category. Every team has a good team work. Every member did their best in classifying the animal. They were engage in the active process of searching, comparing, contrasting and analyzing the words. During the process, the students learnt to think critically about terms and concepts, and develop their ability to make deep and meaningful connections between words.

The students were familiar with the game in the second cycle. Each team got a good result. Thus, in the third cycle the teacher tried to use different activity. Besides asking them to do the previous task individually the teacher also asked the students to try some new games. It was surprising that they were able to get a very good result for the new activities. It seems like the students already get used to the activities. They always showed their interest when playing and also they enjoyed it very much. That is why the result of the students' works in the last cycle was good.

Furthermore, in the third cycle the class showed good interaction between students and teacher or among students to one another. They got involved and participated actively in the learning activities. Most of them were not shy anymore in practicing the dialogue with their friend. They often asked some question related to the material and also responded immediately when the teacher asked some questions. They were not busy with their own business anymore nor just sitting in silence and doing nothing. Furthermore, due to the advice from the teacher, the students understood that high score is not that important compared with the well behavior and being sportive in playing the game.

Besides an improvement of students' behavior, their vocabulary achievement improves as well. The last cycle showed the best result of the students' test which the means score is 85,70 and it is categorized into excellent. It was quite better than the previous two cycles. The improvement could be seen during the test, the students increased their vocabulary store, they could understand its meaning, they could use some expression in context, and also they could pronounce them well. Through every cycle, some aspects of students' vocabulary which were significantly improved were the students' understanding of the meaning of some expression and words. The students' improvement in vocabulary test can be seen clearly in the following chart:

Figure 1. The Students' Improvement in Vocabulary Test on Each Cycle



Based on the chart above, it can be seen that in the first cycle the means score of students' test was 69,75 and it was categorized into average. In the second cycle the means score of students' test was 77,28 and it was categorized into good. Meanwhile, in the third cycle, the means of students' test was 85,75 and it was categorized into excellent. Thus, the students showed an improvement in each cycle. In conclusion, from the result of analysis, the research finding of the research was satisfactory. The students' ability in understanding the meaning had improved by using computer games. The techniques helped students to learn and experience the enjoyable process of learning vocabulary.

DISCUSSION

This study took into account how classroom practices be improved as well as to foster students' vocabulary mastery through the implementation of computer games. Based on the results, the important finding swere the use of computer games extended the opportunities to practice and use the language, as well as stimulating students' interest to participate in the classroom activities. Thus, the findings above show that the computer games provided a range of learning opportunities which aimed at stimulating language use for students. Those results support Anderson et al. (2008) idea that computer games are properly designed with activities for the language classroom can be a good aid for learning language. Besides, Bakar and Nosratirad also argue that (2013)computer games provide learners with the opportunity to practice grammar, vocabulary and writing, and motivate and encourage learners to interact and communicate in English.

Nowadays, computer games are valuable tools in enhancing learning. They are seen as a means of encouraging learners who may lack interest or confidence (Klawe, 1994) and of enhancing their self-esteem (Dempsey, Rasmussen, & Lucassen, 1994; Ritchie & Dodge, 1992). Thus, the teacher role in the classroom is very important especially in choosing the right teaching method as well as teaching tools to use in the classroom. According to Reinders (2012) employing technology, such as interactive games in education, allows teachers to solidify the connection between learning that occurs inside the classroom with that which occurs outside the school environment. In addition, Bakar and Nosratirad also mentions that (2013) computer games evidently have been proved to be a learning motivational tool as they provide learners with opportunities to use English vocabulary in authentic activities.

The games chosen in the study are suitable for the learners which can be seen through their active participation and affords opportunities for the learning material to be integrated into cognitive structures in the teaching learning process. Those findings belong to other significant learning benefits of computer games which have been found to provide the use of metacognition and mental models, improved strategic thinking and insight, better psychomotor skills, and development of analytical and spatial skills, iconic skills, visual selective attention, computer skills etc (Green & Bavelier, 2003; Kirriemuir, 2002; Ko, 2002). Furthermore, in the context of lifelong learning such games afford opportunities to use technologies within a realistic framework as a means to an end and so can play a small but significant role in preparing learners for the world of work (Saunders & Smalley, 2000). They have also had positive effects on motivation and classroom dynamics (Rosas et al., 2003). Therefore, using computer games in teaching is important which teacher should take it into account as a one of teaching methods in language learning.

IV. CONCLUSION

The researcher draws the conclusions as follows:

- The computer games helped the teacher to manage classroom interaction as well as to maximize opportunities for students to foster their vocabulary and to create more effective learning environment.

- All students seemed to have enjoyed their experiences in learning vocabulary through computer games and most made noticeable progress in their language learning.
- The computer games activities promoted students active participation with more opportunities to display their thinking through action which in turn increased their positive attitude for language learning.
- ESL and EFL teachers can use computer games as self-study tools to make teaching and learning vocabulary more interesting, thus, enabling their learners to achieve successful vocabulary learning.

It should be acknowledged that this study had a number of limitations. First, the small number of participants allows for no generalizations. Second, although the students were satisfied with the games, applying more variety of creative activities combine with the use of computer games will be a good idea for future study. Finally, it is strongly recommended to motivate students to look for opportunities for exposure to use of the target language outside the classroom.

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