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The Effects of Web-Based Language Learning on University Students' Grammar Proficiency

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Abstract

Many believe that integrative grammar teaching is the best method to be used in teaching and learning English. Since Malaysian education system emphasizes on the application of ICT in all classes, many teachers and educators have integrated technology in their English classes, including the application of World Wide Web. Web-based language learning (WBLL) materials have been among the favorite materials to be used by English teachers since they are abundant, easily accessed, user-friendly and most importantly, they are provided for free. One of the objectives of the study is to determine the effects of learning passive voices in three different English classes which applied three different modes of teaching, which were the traditional face-to-face method, integrative method (traditional and web-based materials) and web-based learning method. Furthermore, it is aimed to investigate the effects of gender in each mode of teaching and also to determine the best method in learning grammar. The pretest-posttest study was conducted in a public university and it involved 93 semester two students (52 females and 41 males). All groups were exposed to one mode of teaching only for four weeks. The results indicated that there is significant difference in both tests for all modes used. Furthermore, it was found that gender did not give any effect on the students' performance in the posttest when each mode of teaching was applied. Lastly, the integration method was found to be the best method to be used among all the three teaching modes.

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1. Introduction

The emerging of technology has influenced the mode of delivery in a class. Information and Communication Technology, or famously known as ICT, has received tremendous welcome in the process of teaching and learning. This is perhaps due to the fact that ICT is the tool in coping with the fast moving information in this borderless world. Studies have been conducted in regards of ICT in learning and many of them have proven that computers bring advantages in learning and teaching. Since ICT allows sharing of resources and learning environment and promote collaborative learning, it could bring about major benefits to the learner and the teacher (Wheeler, 2001). As a result of these claims, many educators believe that technology helps in their teaching and many institutions are opting for the use of technology, especially computers, in their classes.

Furthermore, in tandem with the development of Multimedia Super Corridor (MSC) which resulted in the demand of many future ICT skilled workers, the university where the research was done has put many efforts in inculcating ICT as part of the concerned university's cultures. The current effort done is promoting the use of "i-learn" among the students. This is an e-learning in which students and lecturers can meet "virtually". As a result of this, lecturers, including English lecturers, are expected to use technology in their lectures. Although English lecturers are encouraged to produce their own CALL materials, many lecturers opt for web-based learning since there are many good exercises available online for free. No doubt that producing own e-learning materials can cater the students' need, but producing own materials requires a lot of time, energy and cost. Thus, many lecturers have used the web-based learning materials in their teaching.

However, the effectiveness of these materials is still in debate since these materials are used in different mode of learning environments. Educators and educational institutions need to understand the full extent of the impact of ICT on learning (Felix, 2005). Researchers and practitioners may need to recognize how different modes of instructional intervention seem to affect instruction and learning process and outcomes (Lee, 2000).

1.1. Purpose of the study

Web-based learning is believed to give some effects on students' learning. However, since web-based can be used in different mode of learning, more studies are needed to be carried out so that evidence could be obtained in determining the best mode of teaching in the application of technology. Hence, one of the objectives of the study is to determine the effects of learning grammar, specifically passive voices, in three different English classes which applied three different modes of teaching, which were the traditional face-to-face method, integrative method (traditional and web-based materials) and web-based learning method. Furthermore, it is aimed to investigate the effects of gender in each mode of teaching and also to determine the best method in learning grammar.

1.2. Significance of the study

Although this is a small-scale study, it is believed that this study has its significance. Firstly, it can provide more insight on the best way to incorporate web-based learning in English class, especially in grammar class. Furthermore, it can help lecturers, especially those who teach in the public university where the research was carried out, to prepare a more effective and interesting grammar activity, which can lead to effective learning. Thus, students can create their interest in learning grammar and their perception in learning grammar as "boring" can be eradicated. Moreover, the findings from this study can

help the administrators to plan necessary policy or syllabus in regards to English courses. Last but not least, the findings can be used as a pilot test and a reference for more in-depth research in the future.

1.3. Research Questions

The research questions that were used in this study are:

- Does incorporating web-based learning in grammar class give any effect on the students' test score?
- Which mode of instruction that produces the best result in students' performance in grammar test?
- Is there any significant difference between students' performance in the mean score of pretest and posttest in each of the three methods used?
- Is there any significant difference between the female students' and male students' mean score of pretest and posttest in each of the three methods used?
- Which mode of instruction is the most effective to be used to teach passive voices?

1.4. Research Hypotheses

Based on the research questions, several research hypotheses were constructed, which are:

- Ho 1: There is no significant difference in the pretest and posttest scores using the traditional mode.
- Ho 2: There is no significant difference in the pretest and posttest scores using the integrated mode.
- Ho 3: There is no significant difference in the pretest and posttest scores using the cyber mode.
- Ho 4: There is no significant difference in the females' and males' posttest scores using the traditional mode
- Ho 5: There is no significant difference in the females' and males' posttest score using the integrated mode.
- Ho 6: There is no significant difference in the females' and males' posttest score using the cyber mode.

2. Literature Review

Many believe that integrative grammar teaching is the best method to be used in teaching and learning English. Since Malaysian education system emphasizes on the application of ICT in language classes, many teachers and educators have integrated technology, including the World Wide Web, in their teaching. However, there are inadequate studies that have been carried out in Malaysia to give the educators a concrete answer to the best way in integrating the method. Due to this, researchers need to be encouraged to venture in this field.

2.1. Review on studies done on the effects of web-based learning on learning grammar

Since technology has been part of everyday life, language also depends on technological enhancement, like audio, video recordings and even World Wide Web (www) resources (Kenning 2007). In language learning, grammar plays a significant role and thus, many language educators have made an effort to inculcate technology in the learning process, in the hope that technology helps to improve students' knowledge in grammar. Some researchers have tried to get some insights on the effects of web-based learning on students' performance in grammar class.

For example, Al-Jarf (2005) investigated on the effects of online grammar instruction on female freshman college students' achievement. 74 students, who enrolled in the online English course voluntarily, were placed in an experimental group and the others, 164 female freshmen college students were in a control group, where the traditional face-to-face grammar class was conducted. The findings

revealed that there were significant differences between the two groups in their knowledge of English grammar. The online grammar instruction helps in students' achievement in their English course.

Another research that focused on grammar teaching and web-based environment is a research done by Frigaard (2002). The research was participated by high school students and their performance on Spanish vocabulary, grammar and listening was investigated after they participated in language lab activities. The findings, which were from the analysis of the students' data and surveys from the five units of lesson, revealed that the students preferred to learn vocabulary and grammar in the classroom, but not the listening skills. Hence, the findings reveal that environment plays an important influencing factor in language learning.

Nagata (1996) did a comparison on the effectiveness of a computer-instruction, known as Nihonyo-CALI, and a no-CALI workbook instruction. It was found that the feedback received in developing learners' grammatical skill in producing Japanese particles and sentences was more effective than the feedback received from the class that used workbook. This study reveals that technology could help in grammar learning and hence, other forms of technological enhancement, including web-based learning, should be inculcated in learning grammar.

3. Methodology

3.1. Construction of references

This research was conducted in a public university, which is situated in the east coast of Malaysia. In this research, the effects of three different grammar teaching instructions on the performance of students' understanding in learning passive voices were determined. The passive voices were chosen because it is one of the most difficult grammatical items to be comprehended.

3.2. The Samples

The samples were 93 semester two students from a public university. There were 61 female students and 32 male students, taken from three groups, Diploma in Office Management (DOMT), Diploma in Banking (DIB) and Diploma in Chemical Engineering (DCE). These students were the researcher's students. The researcher was attached to the three faculties while conducting the research. The students are Malays who mostly come from the east coast of Malaysia, like Pahang, Terengganu and Kelantan. Their age is between 18-20 years old. The result from the pretest shows that the students had the same level of understanding in passive voices.

3.3. The Research Design

The research is a quantitative study and the design is pre- and posttest quasi-experimental design. Since there was no randomization in selecting the samples, the research is considered as a quasi-experimental research. Therefore, the findings cannot be generalized to the population. Three groups were involved in this research. All the groups were given a pretest in the first week of the experiment. After the treatment, all samples were given a posttest and using non-parametric z-test compared the two marks.

3.4. The Instrument

The students were given a set of passive voice questions for the pretest and posttest. The two tests consisted of the same questions. There are 10 sentences in active voice and the students had to change the

sentences from active to passive voice. A reliability test was conducted on the questions using Cronbach's Alpha and it was found that the test was reliable with the value of 0.706.

3.5. Procedure

Before the research began, all students involved in the research were given the pretest on the same day and at the same time. The test was conducted in a small hall in the university. In week 5, the students were given the same questions at the same time and on the same day.

The samples were from three different groups but all of them were semester one students who were undergoing the same English course. Upon doing a simple balloting, the group from the Diploma in Office Management (DOMT) was taken as the control group, which consisted of 17 female students and 14 male students. They were exposed to the traditional method, where the lecturer, who happened to be the researcher, taught the students the rules of changing active to passive voices. The second group was from the Diploma in Banking (DIB), which had 16 females and 14 males, and they were exposed to the integrated learning environment where the lecturer gave the students explanation and they were also exposed to the web-based learning. The third group was from the Diploma in Chemical Engineering (DCE) and there were 13 male students and 19 female students. This group was exposed to the cyber mode, where their learning was mainly using the web-based materials and there was no interruption from the lecturer. The lecturer did not help in explaining the rules. The students did their study and exercises on their own.

3.6. Analysis

Two analyses were used, i.e. descriptive and inferential analysis. Since the data were small and not normal, nonparametric test has to be applied. For the analysis to identify the differences between the two independent groups, i.e. female and male students, the Mann-Whitney U test was used to see the significant. Then, to identify the differences between the dependent groups, i.e. to see the differences of the pretest and posttest results of each group, the data were analyzed by using Wilcoxon T-test. Lastly, the Kruskal-Wallis test was used to examine the possible differences between all groups (Coakes and Steed, 2001).

4. Results And Discussions

4.1. Descriptive Analysis

In the pretest, the highest mean is from the group that was supposed to be exposed to the integrated mode (PreWT) and the lowest mean is from the cyber mode. This could be contributed to the maximum mark that one of the students had, which is 6 out of 10 marks. After the treatment, based on the posttest results, the highest mean score is from the integrated group (PostWT), with the mean of 7.43. The lowest mean score comes from the traditional method (Posttest_Traditional), with the mean of 4.52. However, there was an improvement in the maximum mark for all the methods.

4.2. Inferential Analysis

In discussing the inferential analysis, the hypotheses are answered.

- Ho 1: There is no significant difference in the pretest and posttest scores using the traditional mode. The result shows that there is significant difference between the pre-test score for post-test score using

traditional mode where $Z = -4.885$, $p < .05$. The mean for pretest in the traditional mode is 1.61 and the mean for posttest score using the integrated mode is 4.52. This shows that there are improvements in the score when the treatment was over. Thus, the null hypothesis was rejected.

- Ho 2: There is no significant difference in the pretest and posttest scores using the integrated mode. The result shows that there is a significant difference between in the score of pretest and posttest using the integrated mode where $Z = -4.733$, $p < .05$. The mean for pretest score in the integrated mode is 1.56 and the mean for posttest score using the integrated mode is 6.50. This shows that there are improvements in the score when the treatment was over. Thus, the null hypothesis was rejected. This supports the study done by Al-Jarf (2005), Frigaard (2002), Nagata (1996) that combining technology and the traditional method in grammar class helps to improve grammar.
- Ho 3: There is no significant difference in the pretest and posttest scores using the cyber mode. The result shows that there is a significant difference between the score of pretest and posttest using the cyber mode where $Z = -4.895$, $p < .05$. The mean for pretest score in the cyber mode is 1.56 and the mean for posttest score using the cyber mode is 6.50. This shows that there are improvements in the score when the treatment was over. Thus, the null hypothesis was rejected. This finding could contribute to the evidence that technology could be used in language enhancement.
- Ho 4: There is no significant difference in the females' and males' posttest scores using the traditional mode.

The result of Mann-Whitney U test in which the difference between the posttest scores was calculated, shows that there is no significant difference between the posttest score using the integrated mode between male and female where $Z = -1.714$, $p > .05$. This shows that gender does not affect the students' performance when the traditional mode was exposed to the students. Thus, the null hypothesis is rejected.

5. Conclusions

Even the findings from this research cannot be generalized to the population, some conclusions could be made to help the university to have some insights on the current situation that is happening in teaching and learning English, specifically grammar. A few conclusions could be drawn from the findings of this research.

Firstly, for all the three modes, it was found that the pretest and posttest had a significant difference. Thus, these three modes of instruction can improve the students' performance in grammar. Lecturers can use their creativity to select from these three methods in delivering and teaching grammar.

Moreover, from the findings, gender gives no effect on the students' performance, regardless the type of instruction used. All genders, females and males, show an improvement in any condition. Thus, genders should not be the main consideration upon choosing the mode of teaching in class.

Last but not least, the finding reveals that the integration method is the best method to be used in grammar class as it helps to improve on the students' score. This finding gives the idea that lecturers should be encouraged to use more of this mode so that students feel enjoy and can understand the grammar lesson easier.

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