THE EFFECT OF OBJECT - ORIENTED PROGRAMMING (ADOBE - FLASH) BASED MULTIMEDIA LEARNING METHODS ON ENGLISH FOR TOURISM COURSES

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Abstrak

Tujuan penelitian ini adalah (1) untuk mengetahui pengaruh pengembangan program multimedia Adobe-Flash terhadap kemampuan mahasiswa dalam meningkatkan keterampilan kosa kata pada mata kuliah English For Tourism. (2) untuk menegtahui persentase pengaruh pengembangan program multimedia terhadap kemampuan mahasiswa dalam meningkatkan keterampilan kosa kata pada mata kuliah English For Tourism Penelitian ini merupakan penelitian eksperimental. .Teknik pelaksanaan program untuk penelitian ini adalah tes awal digunakan untuk mengukur kemampuan kosa kata mahasiswa terhadap materi yang diajarkan sedangkan tes akhir dilakukan untuk mengetahui hasil kosa kata belajar mahasiswa setelah diberikan perlakuan dengan menggunakan metode pembelajaran Multimedia Berbasis Object-Oriented Programming (Adobe-Flash) pada mata kuliah English For Tourism.

Kata Kunci : Metode Pembelajaran Multimedia Berbasis Object-Oriented Programming (Adobe-Flash), Keterampilan Kosakata, English for Tourism

Abstract

The purpose of this study are (1) to know an influence on the development of Adobe-Flash multimedia programs on the ability of students to improve vocabulary skills in English For Tourism courses. (2) to find the percentage of the influence of the development of multimedia programs on the ability of students to improve vocabulary skills in English For Tourism courses. This research is an experimental research. The program implementation technique for this research is a preliminary test used to measure students' vocabulary abilities of the material being taught while the final test is carried out to determine student learning outcomes after being treated using Multimedia-based Object- Oriented Programming (Adobe-Flash) learning methods in the eyes English for Tourism lecture.

KeyWords: Multimedia-Based Learning Method Object-Oriented Programming (Adobe- Flash), Vocabulary Skills, English for Tourism

1. INTRODUCTION

Vocabulary is one of the main components in teaching English. Mastery of essential vocabulary is associated with mastery of all language skills, both receptive (listening and reading) and productive (speaking and writing). This field has recently received serious attention from various parties. For example, The US. The National Reading Panel in its summary states clearly the need for vocabulary to be taught in a clear manner directly on teaching reading (Hiebert & Kamil, 2005: 7).

The importance of vocabulary in language learning is also illustrated by Wilkins (Thornbury, 2002: 13), who states that "without grammar, little can be conveyed; without vocabulary, nothing can be conveyed ". He further argued that by studying vocabulary a person would be able to improve language skills quickly. Harmer (1992: 153) also states similarly that "if language structures make up the skeleton of language, then it is vocabulary that provides the vital organs and the flesh ". From this statement it can be concluded that for the sake of communication, vocabulary is more important than grammar. The problem is, in Indonesia, English is taught as a foreign language, so its use in communication in society is very limited (Sadtono, 2007: 205). As a result, students, especially students majoring in English, only received relatively little input in the English lexicon. It is not surprising that students often experience difficulties in understanding the meaning, both textual and contextual, of the words contained in the text. This difficulty can be a serious problem, because the main focus after graduating from the Faculty of English is that students are able to speak English well. Therefore, it is important for lecturers to improve students 'vocabulary mastery as a support for improving students' speaking skills and making it easier for them to be able to compete in the world of work.

According to Warren (2005: 122), ICT with its various advantages can play a special role in the classroom. With an attractive and dynamic learning environment, students can learn with high motivation. Harrison (2008: 88) states that computer support is very useful in developing vocabulary mastery. Harrison exemplifies several findings, among others by Reinking & Rickman (1990: 98) and Davidson, Elcock & Noyes (1996).

Harrison also cites Ruddell's (1994: 97) conclusions which are useful for guiding vocabulary

teaching, which among other things states: (1) Vocabulary is understood gradually, not absorbed at once or rejected at once, (2) Students learn vocabulary more effectively if the learning is active and social,
(3) Students can learn vocabulary from context. 78 - LingTera Journal, Volume 1 - Number 1, May 2014 National Reading Panel (2000: 44) in "Specific Conclusions about Vocabulary Instruction" states in one of its conclusions (number 6) that "computer technology can be used effectively to help teach vocabulary ". In addition, DeCarrico (Celce-Murcia, 2001: 288) states that the variety of illustrations that can be displayed by computer programs, be it sound or image, can provide various contexts for students to practice vocabulary.

Between the two continuum, there are authoring tools with object-oriented programming such as Adobe Flash. Adobe Flash, which is a program authoring tool that is widely used to produce multimedia and animated content. At that time, Flash was widely used on web pages, both to display animations, games, and as a music and video player. The forerunner of Flash was developed around 1994-1996 by a programmer from the United States, Jonathan Gay, with his team at the Future Wave studio. This studio produced an animation design product called FutureSplash, which was later purchased by Macromedia and released under the name Macromedia Flash. In 2005 Adobe acquired Macromedia, so Flash changed its name to Adobe Flash (Warren, 2012: 98).

Adobe Flash can be used for various purposes, such as web design, photo galleries, interactive presentations, and others. Several Multimedia Program Developments to Increase Mastery ... (Rahmad Hidayat, Endang Nurhayati) -79 LingTera Journal, Volume 1 - Number 1, May 2014 professions that use Flash a lot include graphic designers, animators, web designers and website developers (Kerr & Keats, 2009: 34). Adobe Flash uses an object-oriented programming system (OOP), which makes it easy for multimedia designers to organize very diverse objects (for example a collection of images and videos / animations), because the way they work is similar to how humans manage objects around them (Dean & Dean , 2008: 197-198).

In addition, there are also components that are already available by default, such as checkboxes, radio buttons, sliders, and video players. All of these components can easily be called up and modified as needed. The use of components can further increase the level of user interaction with the application being developed. In addition, Flash CS4 uses a new programming language, namely ActionScript 3.0, which is a big leap in programming languages compared to its predecessor, Action-Script 2. ActionScript 3.0 uses a much different coding system and is much faster in terms of access, and is easier to understand the logic of its operation . ActionScript 3.0 which was developed since 2006 is currently the main programming language for Flash-based programs, where the script used refers to the standard language used by the European Computer Manufacturers Association (ECMA Script), so it is compatible for use on the majority of computers, operating systems, and current web browsers, most of which already support JavaScript (Rosenzweig, 2011: 2).

From the pre-survey results it was also revealed that most lecturers had never received training or guidance in using multimedia devices. The unfamiliarity of lecturers with multimedia devices can be another source of lecturers' reluctance to use multimedia, especially because of the emergence of concerns technical constraints during implementation, which have the potential to hinder the teaching and learning process. This is actually unfortunate, because all respondents stated that in their schools there are adequate facilities to run multimedia devices. From the background and problems above, this research focuses on developing multimedia programs that are feasible in terms of material, media and usage aspects, and can to improve the mastery of English vocabulary in second semester students. The goal is to produce a multimedia program that is feasible in terms of material and media aspects, which can be used in teaching English, especially to improve vocabulary mastery of second semester students of UMSU. In this program, there are a series of activities focused on improving English vocabulary mastery.

This program includes text presentations, practice questions, drill and practice, image illustrations, sound illustrations and pronunciation, usage in sentences, and simple games such as matching pictures and words, looking for words in puzzles, and rearranging letters random into words. The program developed includes (1) the main menu which contains an introduction (SK, KD, indicators, and material summaries),
(2) learning materials which are divided into several activities, and (3) practice questions. This multimedia program is also equipped with graphic illustrations, sound, background music, and interactive buttons.

Based on the background described above, the researchers formulated the following problems: Is there an effect of developing multimedia programs on students' ability to improve vocabulary skills in the English For Tourism course? What percentage of the influence of program development multimedia on the student's ability to improve vocabulary skills in the English For Tourism course? The objectives of this study were: To find out how the influence of developing multimedia programs on students' ability to improve vocabulary skills in the English For Tourism course. This is to find out how much influence the

development of multimedia programs has on students' ability to improve vocabulary skills in the English For Tourism course.

2. METHOD

This research is an experimental research. This research was conducted at FKIP UMSU Jalan. Captain Mukhtar Basri No. 3 Medan. The research time was carried out in the even semester of the 2019/2020 school year between January and completion. The population of this study were all students in semester II of English education, amounting to four classes. Then the two classes obtained by random sampling were used as research samples where one class was the experimental class which was taught by developing multimedia learning programs and the other class was the control class which was taught using the investigation group learning model, namely class II A Pagi and class II C Morning. English Study Program, FKIP UMSU. The research instrument is a tool used by researchers to collect data. The research instrument is a test. In this study, the test given to students aims to determine the ability of students' writing skills. The test given is in the form of a test description. The test consists of: Initial test (pre-test) The pre-test is a test given to students before they are given strategies for both classes. This test is used to measure students' initial ability to student vocabulary. 2. Final Test (post-test) The final test (post-test) is a test given to students after learning in both classes, where the control class lecturer still uses the lecture method, while in the experimental class the lecturer has used the development of the Adobe - Flash multimedia program. The final test aims to see the vocabulary results of students with or without the development of the Adobe – Flash

1. D = r2 × 100%

3. RESULTS AND DISCUSSION

As a general illustration, regarding the distribution of research data obtained in the field, the existing data is described in the form of data that has been processed from the raw data that has been obtained using the following form of analysis: 1. Pre-test The pre-test results in this study can be seen in the table below:

Table 1 Data of Pre- Test multimedia program. The data analysis was taken by calculating the score of the students' writing results. The steps taken in analyzing

this research are: 1. Hypothesis Testing For the correlation test, the product moment Score Numb

er of Stude nts Presenta tion **Informat ion** correlation formula is used, namely:

$$r_{xy} = \frac{n\sum X_i Y_i - (\sum X_i)(\sum Y_i)}{\sqrt{\{(n\sum X_i^2) - (\sum X_i)^2\}\{(n\sum Y_i^2) - (\sum Y_i)^2\}}}$$

Sugiyono, 2016: 183)

To find out the significance of the influence of the X and Y variables, use the t-test formula as follows:

$$t = \frac{\overline{X}_1 - \overline{X}_2}{\sqrt{\frac{s_1^2}{n_1} + \frac{s_2^2}{n_2} 2r\left(\frac{s_1}{\sqrt{n_1}}\right)\left(\frac{s_2}{n_2}\right)}}$$

(Sugiyono, 2016: 197)

The significant level used in this test is

= 0.05 with the testing criteria: Ha is accepted ≥75 21 56,76% Not Pass

<75 16 43,24% Passed

In the calculation of the pre-test results above, the results obtained from students' writing skills were classified into two categories, namely passing and not passing. As for those categorized as not graduating, there were 21 students with a percentage of 56.76%, and those categorized as passing were 16 students with a percentage of 43.24%. 2. Post- test The post-test results in this study can be seen in the table below:

Table 2 Post-Test Student Completeness Value Data and H0 is rejected if tcount> ttable. Ha is rejected and H0 is accepted if tcount <ttable 2. Determination Test If the x and y linear regression equations have been determined Score Numb

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and the b direction coefficient has been obtained, then the direction coefficient of determination r2 can be determined by the formula:

$$r^2 = \frac{b\{n(\sum xiyi)\} - (\sum xi)(\sum yi)}{n(\sum yi^2) - (\sum yi)^2}$$

(Sudjana, 2016: 370)
To find out how much the contribution of variable x to variable y uses the formula: ≥75 5
13,51% Not
Pass
<75 32 86,49% Passed

In the calculation of the post-test results above, the results obtained from the students' writing ability were classified into two categories, namely passing and not passing. As for those categorized as not graduating as many as 5 students with a percentage of 13.51% and those categorized as passing were 12 students with a percentage of 86.4%. Data Normality Test The normality test is used to see whether the data obtained is normally distributed or not. The results of the calculation of the normality test using the Liliefors formula (L). 1. Pre-test Based on the normality test at the time of the pre-test, it was found that Lcount = -0.901 while Ltable at the real level a = 0.05 and n = 37, it was obtained Ltable = 0.146. Because Lhitung <Ltabel (- 0.901 <0.146), it can be concluded that the data is normally distributed. 2. Post-test The results of the Normality Test on the post-test obtained Lcount = -0.855 while Ltable at the real level a = 0.05 and n = 37 obtained Ltable
= 0.146.
Because, Lhitung <Ltabel (-0,855
<0.146) so it can be said that the data is normal distribution. Homogeneity Test Homogeneity test to determine whether the data has a homogeneous sample or not. Pre-test variance
= 209.38 Post-test variance = 142.32 a = 37 F
= Largest variant = 209.38 = 1.471 Smallest variant = 142.32 Based on the results of the above calculations, it is obtained Fcount of
1.471. While Ftable at the real level a = 0.05 and dk = n -2 then 37-2 = 35 is obtained Ftable
= 2.49. If the price of Fcount is compared with Ftable, it is obtained Fcount <Ftable (1.471
<2.49), it can be concluded that t for FKIP UMSU students the 2019/2020 Academic Year is homogeneous.

Data Hypothesis Test Hypothesis testing is intended to determine whether there is an effect of learning object-oriented programming (Adobe-Flash) based multimedia methods in the English for Tourism course for students of the UMSU FKIP English Study Program. In this case the t-test can be accepted if tcount <ttable, the treatment given has no effect. In this study, it is known that the tcount value is 5.2577 while the t-table with degrees of freedom dk = n- 1
= 37-1 = 36 at the real level a = 0.05, it is obtained t table = 1.68830. Because titung > t table, namely (5,2757> 1.68830). So it can be concluded that the accepted hypothesis is Ha, which means that there is a development of object-oriented programming (Adobe-Flash) based MultiMedia learning methods in the English For Tourism course.he pre-test and post-test.

Discussion

From the results of the initial test (pre- test) obtained an average value of 69.21 with the highest value of 92 and the lowest value of 39 and the standard deviation of 14.47. Based on these results, there were only 16 students who had achieved the grade based on the Minimum Completion Criteria (KKM) with a presentation of 43.24%, while those who had not reached the Minimum Completion Criteria (KKM) were 21 students with a presentation of 56.76%. In the post-test results, it was obtained an average value of 85.30 with the highest score of 100 and the lowest score of 55 and the standard deviation of 11.93. Based on this, there were 32 students who had achieved the Minimum Completion Criteria (KKM) with a presentation of 86.49%, and those who had not reached the Minimum Completion Criteria (KKM) were 5 students with a presentation of 13.51%. In the normality test, it was found that the data were normally distributed Lhitung <Ltabel .. Based on the results of the students' pre-test, the value of Lhitung = -0.901 while L-table = 0.146. Because Lhitung <Ltabel (-0,901 <0,146) it can be said that the pre-test data is normally distributed. And in the post-test, the value of Lhitung = 0.855 while L-table = 0.146. Because Lhitung <Ltabel (-0,855 <0.146), it can be said that the post-test data is normally distributed. Thus it can be concluded that the two sample data are normally distributed. Then at the time of the homogeneity test, the value of Fcount = 1.471 while Ftable = 2.49, if Fcount is compared to Ftable, then it is obtained Fcount <Ftable (1.471 <2.49) and it can be concluded that the data has a homogeneous

sample. After being analyzed using the T-test, the value of tcount = 5.2757 was obtained while ttable = 1.68830. Based on these figures, it is concluded that tcount> ttable (5.25757> 1.68830), then Ha is accepted and H0 is rejected, meaning that there is the development of Object-Oriented Programming (Adobe - Flash) based multimedia learning in the English For Tourism course.

4. CONCLUSION

This study aims to determine the analysis of object-oriented programming (Adobe-Flash) based multimedia learning methods in the English For Tourism course. After going through the research process and based on the analysis of existing data, a number of things that are the essence of the results of this study can be concluded, as follows.

a. From the research results before using the object-oriented programming (Adobe-Flash) based multimedia learning method, the average value is 69.21 with the highest score of 92 and the lowest score of 39 and a standard deviation of 14.47. Based on this, students who achieve the Minimum Provision Criteria score (KKM) amounted to 21 students and 12 students who had not reached the KKM.
b. From the research results before using object-oriented programming (Adobe - Flash) based multimedia learning methods, the average value is 85.30 with a standard deviation of 11.93. Based on this, there are 32 students who have achieved the Minimum Provision Criteria (KKM) and those who have not reached the KKM score are 5 students.
c. Based on the hypothesis test obtained equal to 5.2577 at a significant level $\alpha = 0.05$ and dk = n-1 = 37-2 = 35 from the distribution table list = 1.68957 that hypothesis It is accepted that there is an object-oriented (Adobe - Flash) based multimedia learning method on the vocabulary in the English For Tourism course.

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REFERENCES

Al-saadi, N. (2015). *Importance of English Language in the Development of Tourism. Academic Journal of Accounting and Economics Researches, 4(1), 33–45*. Retrieved from www.worldfresearches.com

Dagdilelis, V. (2005). *Principles of educational software design. Dalam S. Mishra & R.C. Sharma, Interactive multimedia in education and training (Eds.) (pp.1-24).* Hershey: Idea Group Publishing.

Dean, J., & Dean, R.H. (2008). *Introduction to programming with Java: a problem solving approach.* New York: McGraw-Hill.

De Carrico, J. S. (2001). *Vocabulary Learning and Teaching. Dalam M. Celce-Murcia (Ed.), Teaching English as a Second or Foreign Language (3rd ed.) (pp.285-299).*

Boston: Heinle & Heinle. Erlbaum Associates, Inc.Kerr, C. & Keats, J. (2009). The essential guide to Flash CS4. New York: Friendsof- Apress.

Fahy, P. J. (2005). *Planning for Multimedia Learning. Dalam S. Mishra & R. C. Sharma, Interactive multimedia in education and training (Eds.) (pp.1- 24).* Hershey: Idea Group Publishing.

Gay, L.R. (1987). *Educational research: competencies for analysis and application (3rd ed.).* Columbus: Merrill Publishing Company.

Green, T. & Stiller, D. (2009). *Foundation Flash CS4 for Designers*. New York: Friendsof-Apress.

https://id.wikipedia.org/wiki/Adobe_Flash

https://www.indoblog.me/2016/04/keguna an-dan-manfaat-dari-adobe-flash.html.

Kamil, M. & Hiebert, E.H. (2005). *Teaching and Learning Vocabulary: Perspectives and Persistent Issues. Dalam E.H. Hiebert, & M. Kamil, Teaching and learning vocabulary; bringing research to practice (Eds) (pp.1-23)*. London: Lawrence Lee, W.W. & Owens, D.L. (2004).
Multimediabased instructional design (2nd ed.). San Francisco: Pfeiffer.

Nagy, W. (2005). *Why vocabulary instruction needs to be long-term and comprehensive. Dalam E.H. Hiebert, & M. Kamil,Teaching and learning vocabulary; bringing research to practice (Eds) (pp.27-44). London: Lawrence Erlbaum Associates, Inc.Nation, I. S. P. (2001).* Learning vocabulary in another

Pagani, M. (Ed.) (2005). *Encyclopedia of multimedia technology and networking.*Hershey: Idea Group Inc. Rosenzweig, G. (2011). *ActionScript 3.0 game programming university (2nd ed.).* Indianapolis: Que Publishing.

Sato, T., & Suzuki, A. (2010). *Do multimediaoriented visual glosses really facilitate EFL vocabulary learning?: A comparison of planar images with threedimensional images*. The Asian EFL

Sudaryanto. (2010). *Pengembangan multimedia pembelajaran Bahasa Inggris dengan program Macromedia Flash MX 2004 untuk memotivasi dan meningkatkan hasil belajarmahasiswa SMP*. Tesis magister, tidak diterbitkan, Universitas Negeri Yogyakarta, Yogyakarta.

Sugiyono. (2010). *Metode penelitian pendidikan:pendekatan kuantitatif, kualitatif, dan R&D*. Bandung: Penerbit Alfabeta.

Thornbury, S. (2002). *How to teach vocabulary*. Edinburgh: Pearson Education.