Use of Computer-Based Learning Multimedia at English Departement of Universitas Sembilanbelas November Kolaka

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ABSTRACT

In an attempt to help the students of the English Study Program in Universitas Sembilanbelas November improve their English proficiency, the researcher used computer-based learning multimedia. The objective of the treatment was to overcome the students' low performance in English by creating an enjoyable atmosphere. To investigate how computer-based learning multimedia improve the students' English students'performance at the English Study Program of Universitas Sembilanbelas November, the researcher adopted Plomp's (1997) development method which consists of five steps; namely, preliminary investigation; planning; realization/construction; test, evaluation, and revision; and implementation. Based on the results of this research, it can be concluded that in order to improve the English ability of students, it will need to be presented in the form of activities that are more creative and innovative. One is through the use of computer-based learning multimedia. This has been done in order to provide a more attractive presentation of the material and relevant to the conditions and characteristics of the students.

Key Words: Computer-Based Multimedia Learning, Plomp's Development Model, English Study Program

INTRODUCTION

Based on the researcher's personal observation of his own students at the English Department of Universitas Sembilanbelas November, these learners typically have low English language proficiency and performance. This can at least be attributed to three possible factors. First, English teachers still apply conventional methods, such as Grammar Translation Method in the classroom to teach students. Second, teachers and students are not able to use existing facilities and infrastructure. Third, teachers have not been professional or experienced enough to teach students. Therefore, students become demotivated andlose all their interest in learning in the classroom.

This situation should certainly not be ignored. One of the many ways in which language learners can be assisted is through the use of technology. Teachers should be adjusted to the new learning technology because its development has provided a diverse range of tools and materials that can be used to improve students' learning achievement. Teachers should be innovative in utilizing these resources. Teachers must pay attention and be aware of the methods, techniques, and materials that technology has to offer to facilitate students' learning.

Reyes and Kleyn (2010) proposed three language learning strategies. These strategies are using concrete objects as props while enhancing the attraction, using visuals, and practicing language learning activities. Since multimedia can provide all of those mentioned conditions, it seemed logical to assume that the utilization of multimeda can improve the English language performance of English Depatement students of University Sembilanbelas November.

Multimedia is already fairly old-fasioned. However, teachers and students of English Depatement of Universitas Sembilanbelas November have very low computer skills. This research was an attempt to offer learning multimedia as a way to improve language learning among students. In this line, this study is answering the following question:

- How to develop learning multimedia for students in English department of Universitas Sembilanbelas November?"

LITERATURE REVIEW

Definition of Learning Multimedia

Multimedia can be defined as the merging of two or more media elements consisting of text, graphics, images, photographs, audio, video, and animation in a fully integrated way. Multimedia can be divided into two categories; namely, linear multimedia and interactive multimedia.

The utilization of multimedia is a form of learning supported by different sources of information (e.g. text and

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graphics) being handled jointly in order to understand and memorize a given content. Hadmin (2000, as cited in Aloraini, 2012) stated that texts, spoken words, sound and music, graphics, animations, and still pictures are mainstreamed in a comprehensive presentation so as to provide effective education, which in turn will support the participation of the different senses of the learners in diverse syllabi. In other word, multimedia provide a complete system that can be used to stimulate students' thoughts, feelings, interests, and concerns in the classroom.

Based on the above, the researcher holds that the teacher can empower students' interaction through the utilization of multimedia.

Benefits of Learning Multimedia

In general, learning multimedia have several benefits that can be gained in the learning process; to name a few, more interesting activities, more interactive classroom environment, reduced teaching time, improved quality of student learning, increased amount of time spent on the learning process, as well as better and more positive attitudes of learners toward learning.

Multimedia can present animation, moving images, and sounds in the learning process, which allow educators to develop their ability in presenting the material that involves interaction with learners. Images and animations can help learners be more active in learning. They can watch the motion, a closer look microorganism, using a mouse and computer keyboard, simulation, and interactive material. One advantages of the utilization of multimedia is to obtain information quickly and effectively, and it can improve the students' motivation and attention to learn.

Computer-based Learning Multimedia

Technology can enable the learner to self-study. It can also be incorporated in the learning process of direct, face-to-face learning in class relying on the presence of teachers or lecturers. Learning multimedia or learning resources that are related to technology have become the center of attention among educators globally. Based on Wena (2011, as cited in Purwanto, 2015), computer-based learning is learning to use computers as a tool. Computer-based learning-teaching material is presented through the medium of the computer, which makes students more interested and motivated to learn. Through computer-based learning, students will interact and deal directly and individually with the computer (Wena, 2011, as cited in Purwanto, 2015). Therefore, what was experienced by a learner who learned through computer-based material will be different from what was experienced by others who did not. One of the most interesting characteristics of computer-based learning is its ability to interact directly with learners. It can be concluded that computer-based learning is a kind of teaching and learning activities undertaken by teachers with a computer as a tool in delivering the learning material that will motivate students to participate in learning activities that are taking place.

The advantges of multimedia presented by Vallance and Towndrow (2007) are that in the future, teachers will use text, images, sound, video, and animation as part of their curriculum; all available through the information highway. And as the power and ease of use of software increase, so will the ability of teachers and students to create presentations with multimedia content that rivals the production values of today's high budget films and television. Thus, it can be said that the presentation with the use of multimedia would be more efficient than producing educational movies or costly television educational programs.

Through the use of multimedia, students have the opportunity to learn and apply their natural capabilities (Ivers and Barron, 2002). Multimedia presentations use several kinds of text, charts, audio, video, animations, simulations, or photos. If the various components can be merged interactively, they will result in more effective learning. Students can select the desired lesson material, and computers that monitor the progress of students' learning process (Sutopo, 2003; Mayer, 2005).

Therefore, any course book should be supplemented with multimedia learning material, includinganimations, pictures, recordings, and videos. Learning multimedia materials should of course be carefully designed using user-friendly menus, engaging navigation buttons, colors, and attractive layout. Numerous studies are available on how learning multimedia can and should be developed to ensure their outmost efficiency (e.g., Mukundan, Nimehchisalem, and Sayadian, 2012).

Advantages and Disadvantages of Computer-Based Learning Multimedia

Computer-based learning has several advantages. The following can be mentioned as some of the advantages and benefits of computer-based learning, according to Wena (2011, as cited in Purwanto, 2015):

1. It provides opportunities for learners to solve problems individually.
2. It allows the learner and the teacher to create compelling presentations with animation.
3. It provides numerous and varied learning content choices.
4. It can raise the motivation of learners in learning.
5. It is capable of activating and stimulating methods of teaching well.
6. It promotes the development of students' understanding of the material presented.
7. It stimulates students to learn with passion as the available materials are easily understood by learners.
8. Learners will have a concrete experience and the retention of learners will be increased.
9. It give direct feedback.
10. Learners can determine their own pace of learning.
11. Learners can do a self-evaluation.

Other advantages of computer-based learning include:

1. It can accommodate slow learners because it can create an effective learning climate in a much more personal way.

2. It can stimulate learners to do the exercises because of the availability of animated and attractive graphics, color and music.
3. The learner is free to adjust the speed and the level based on his/her ability.

Based on the advantages stated above, the use of computers in teaching is believed to improve outcomes and motivation of learners. Improved learning outcomes and motivation of learners are direct indicators of effectiveness and efficiency of learning. However, computer-based learning also has some drawbacks. Wena (2011, as cited in Purwanto, 2015) suggests some weaknesses of computer-based learning, namely:

1. It is effective if used by one person or a small group. This weakness has been overcome because of the easy procurement of computers these days.
2. If the physical appearance of learning content is not well designed or simply a display like the traditional text books. Learning through computer media will not be able to increase the motivation of learners (learners get bored).
3. Educators who do not understand the application cannot design a computer program through the medium of a computer. Then, they must cooperate with computer experts and cameramen.

METHOD

Type of Research

This research is a Developmental type, that aims to develop interactive multimedia learning material, with media-oriented products. The researcher adopted Plom's (1997) development model (Figure 1).

Setting and Subjects of the Research

This research was conducted in English Department of Universitas Sembilanbelas November. The subjects of this research were 22 students of the second grade of English Department of Universitas Sembilanbelas November. The researcher chose these learners purposively because their ability was still low. Therefore, the researcher was interested to use computer-based learning multimedia in solving the students' problems. The profiles of the subjects is in Table 1.

In addition, the researcher also interviewed 21 of English lecturers of English Department. The profile of them is in Table 2.

Instrument of the Research

Both qualitative and quantitative data were obtained in this research. The quantitative data were from the expert judgment on the feasibility of the materials, application program, and lay out. The qualitative data were derived from suggestion and comment from the experts and it was used for product revision.

The data collection methods used in this study were interviews, questionnaires and a test. The interview form consisted of 5 open-ended questions (Appendix 1) which allowed the 21 English lecturers responded freely. In addition, the questionnaire was filled out by the experts on their related expertise. The experts gave response on the questionnaires related to the aspects being evaluated. They evaluated aspects cover material, programming, and layout. The detail aspects being evaluated can be seen in Appendix 2. To ensure the reliability of the questionnaire, it refers to the instrument development criteria which mention in Depdiknas (2006). Meanwhile, the 6 essay reading test was given to the students when they were trying out the product to know the students' learning outcome. To validate the test, the researcher tested it in a small group trial first.

RESULTS

Regarding the Plomp' (1997) development Model, the results of the implementation of each stage is in the following description. In the initial assessment stage, the researcher interviewed 21 the lecturers of English language Departement on November 11th, 2015. The interview was aimed to elicit information on the students' prior characteristics, knowledge, skills, and attitudes. Five points were noticeable. First, the English departement students had low English performance. Second, the teaching materials did not match with the students' needs. Third, the students were almost always
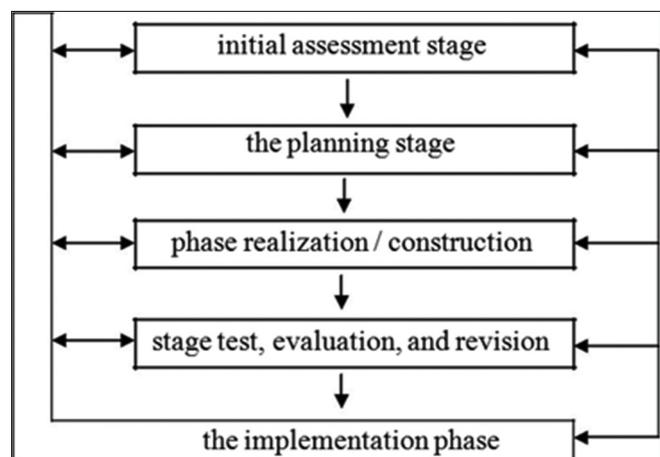
Figure 1. Plomp's (1997) development models

Table 1. The profiles of the subjects

Subjects' characteristic	Sex		Age		
	Male	**Female**	**15**	**16**	**17**
Number of students	7	15	5	15	2

Table 2. The profile of the English lectures

Respondents' characteristic	Sex		Education		Teaching experience (year)			
	Male	**Female**	**S1**	**S2**	**< 1**	**1-2**	**3-4**	**> 4**
Number of lecturers	9	12	0	21	0	9	5	7

bored in the classroom. Fourth, the students' language skills were very poor. Finally, the students needed interesting and attarctive learning-teaching materials. It was also noted that the department was already equipped with reasonably sufficient number of LCDs and laptops. However unfortunately, these two media tools were still rarely used because of the fear of being unintentionally damaged.

In the design stage, the researcher designed the multimedia in accordance with the characteristics of the students and the demands of their competence. At this stage, the researcher collected the subject matter necessary for the production of a Kolaka Folkfore CD, entitled *The Origin of Mount Menkongga*.

In development stage, the researcher combined the circulation of materials such as subject matter, pictures, animations, audio, and texts by using Adobe Flash CS3, Adobe Photoshop, and Pinnacle Studio. After that, the interactive multimedia was burned on a CD.

In implementation stage, the researcher applied the CD in the classroom. During the implementation, the researcher observed the students' activities. At evaluation stage, the researcher collected the whole data in the form of a formative test. After the formative evaluation had been conducted in 3 stages; namely, the one-to-one test, small group evaluation, and field test.

At the one-to-one stage, the researcher involved students in groups of three. The students were purposively assigned to these groups, consisting of one hight performance student, one average performnce student, and one low performance student so that they could represent the characteristics of the target population. They were chosen based on their evaluation reports from the previous semester. In that stage, the students' mean percentage was 94.9%, signifying a very good qualification.

The second stage was the small group trial. The researcher involved twelve students with four students with high, medium and low abilities. In this stage, the students achieved the mean score of 93.2%, also a very good standing.

The third test was a test field. The researcher delivered the multimedia directly and simultaneously to the whole 22 students. Each student directly observed and passed a judgement through the new teaching strategy. In this stage, the students' mean score was 84.97%, indicating their positive attitudes. Before the implementation, the reasearcher conducted a pre-test. In that time, the sudents only achieved the average score of 39.75%. This average showed above the minimum success percentage. It can be noticed that the students' performance had passed the criteria of success.

Based on the results of using computer-based learning multimedia in the teaching and learning process, it can be concluded that the utilization of computer-based learning multimedia can improve students' performance. This can be examined from the criteria of success as 80% of the students got score above 80. The teacher (the present researcher) and the students were more active in the teaching and learning process.

DISCUSSION

Based on the data presentation, it was found that computer-based learning multimedia can improve students' English performance. The computer-based learning multimedia used in the learning activities that can stimulate the mind, feelings, interests, and the students' attention. So, teachers can empower students. This is in line with the research findings reported by Verma (2011), Wang (2009), and Zhen (2016).

Wang (2009) suggests that the vivid presentation of visual teaching material could drive the class to be full of life. It was also found that the students communicated with each other during the class presentation actively.

In addition, Verma (2011) showed that learning multimedia are more effective than the conventional learning models. Here, the researcher also carried the same perception since he found that he can run his class smoothly thanks to the multimedia.

Zhen (2016) found that the utilization of multimedia can encourage students' performance. However, it is also suggested that teachers should be wise to decide the utilization of multimedia. In this, students not always concentrate on the learning material; instead, they pay more attention to the media presented.

The researcher faced this case during his utilization of multimedia in the class. In the first cycle, he found the students were enthusiastic; he believed that the students understood. In fact, the students' English performance in the final test improved considerably. It was proven by the improvement of the students average score from the pre test to the final test. In the pretest, the students only got 39.75%. Then, the students got 84.97% in the final test.

CONCLUSION

Since computer-based learning multimedia can motivate and empower students, the students' English ability can be improved by the utilization of computer-based learning multimedia. The finding of this research can spiritualize English teachers to reflect on their own conventional teaching media and to support them in exploring a new concept of teaching method. Usually, teachers teach through teacher-centerd lecturing model. Through computer-based learning multimedia, teachers will find a very communicative media since it not only presents texts, sounds, and pictures, but also movies and videos. Teachers are now able to facilitate students' learning through a student-centerd model. Theoretically, the finding of this study contributes to the theories of language teaching, especially for constructivist learning theory. On one hand, it may become one alternative language teaching media. Moreover, it facilitates students to learn and support each other. The researcher suggests that further research is needed to apply computer-based learning multimedia. In addition, researchers in this area could conduct interviews with students to investigate students' perception.

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Appendix 1. Interview Guideline for English Lecturers

1. Do the English Department students have high English performance?
2. Does the lecturers' teaching material fit the students' prior knowledge?
3. What is your opinion about the English students' attitudes?
4. What do you think about their skills?
5. What is your general comment on the English Department students? Do you have any suggestion for the improvement of their English?

Appendix 2. Research Instruments

Please mark the extent to which you agree with each item by marking one of the choices next to each item and following the key below:

1= Strongly disagree, 2= Disagree, 3= Undecided, 4= Agree, 5= Strongly agree

Questionnaire for expert judgment on learning material						
No.	**Items**	**1**	**2**	**3**	**4**	**5**
1	The learning objectives are clear					
2	The learning objectives fit the standard competence					
3	The learning objectives fit the basic competence level					
4	The materials fit the learning objectives					
5	The learning materials fit the students' level					
6	The materials are organized systematically					
7	The language is easy to understand					
8	The texts are readable					
9	The pictures are clear					
10	The pictures are suitable					
11	The tasks and exercises are enough to achieve competences					
12	The tasks and exercises fit the students' competence					
13	The product stimulates learners to initiate their own learning					
14	The product stimulates learners to learn individually					
15	Assessment section is available					
16	The assessment instrument is easy to understand					
17	The evaluation is consistent with the learning objectives					
18	The instructions in the assessment are comprehensible					
19	The product stimulates learners to do self-assessment.					
20	Feedback of the evaluation is provided					

Please give your general comments and suggestion on the learning media aspect for the improvement of the product revision.

Questionnaire for learning media expert's evaluation of programming

No.	Items	1	2	3	4	5
1	The application is of a reasonable size					
2	The application is running well					
3	The application is not easy to trouble-shoot/not responding					
4	The application is not easy to crash (stop when being utilized)					
5	The design and the layout of navigation pane is attractive					
6	The form of navigation is consistent					
7	The navigation pane is consistently placed					
8	The choices of application type/software/tool for the development are right					
9	The learning media can be installed/run in various hardware and software					
10	The learning media program package is integrated and easy to be utilized					
11	The learning media is well packaged					
12	The installation process runs automatically by using autorun					
13	Installation manual is available (clear, brief, detail)					
14	The manual of buttons is available					

Please give your general comments and suggestion on programming aspect for the improvement of the product.

Questionnaire for learning media expert's evaluation of lay-out

No	Items	1	2	3	4	5
1	The media manual is clear					
2	The media can be easily used					
3	The menu is easy to choose					
4	The buttons are easy to use					
5	The presentation of the materials is consistent					
6	The navigation consistent					
7	The buttons are consistent					
8	Picture display is clear					
9	Animation configuration is at an acceptable level					
10	The sound is clear					
11	Backing sound					
12	The display of color composition is clear					
13	The background color is attractive					
14	The background color is matched with the front ground of each slide					
15	The slides are attractively displayed					
16	The product could motivate students to learn					
17	The product promotes interaction among students					
18	Correct answers are provided					
19	Feedback is provided for incorrect answers					

Please give your general comments and suggestion on lay-out aspect for the improvement of the product.