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The Utilization of The Microsoft Power Point and Microsoft Word Program in Physics Learning in Class X Students of Senior High School

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Abstract: This study aims to determine utilization of Microsoft Power point and Microsoft Word programs in learning physics in class X SMA Negeri 1 Ma'rang, Indonesia. This type of research is quasi-experimental with the research design used is *Non Equivalent Control Group Design.* The population in this study were 6 classes with a total of 182 students. Sampling was done by simple random sampling as many as 65 students, consisting of 33 students for the experimental class and 32 students for the control class. The instrument used is a test of physics learning outcomes as many as 30 test items. Based on the results of descriptive and inferential analysis shows that the physics learning outcomes of class X students of SMA Negeri 1 Ma'rang who take lessons using computer media through the Microsoft Power Point program obtained an average total score of 9.58. Meanwhile, for students who take part in learning using computer media through the Microsoft word program, an average total score of 8.21. The results of the inferential statistical analysis revealed that there was a significant difference between the attitudes of the students of SMA Negeri 1 Ma'rang who were taught using the Microsoft power point program and those taught with the Microsoft Word program. Thus, physics learning outcomes of students who are taught using the Microsoft power point program better than using with the Microsoft Word program.

Keywords: Microsoft Power Point, Microsoft Word, Physics Learning

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INTRODUCTION

The very rapid and comprehensive development of science and technology has touched almost every aspect of human life, including the fields of knowledge and teaching. This is marked by the emergence of various theories and concepts of thought in the field of education (BNSP, 2006).

It is undeniable that the progress of a nation is made possible by the expansion of education for every member of the nation, therefore education should be universal, comprehensive and integrated (Uljens, 2002). Development in all fields of education today, it is felt that there are still problems that have not been completely solved, both the implementation and the quality of the output have not fully met expectations, even though the goal of National Education to be achieved is to educate the nation's life which is held in an integrated manner and directed at improving the quality and quantity. Education, so as to meet the needs of National Development while taking into account the development of science and technology (Dimopoulos & Koulaidis, 2003; Hanif, 2020; Nouri & Shahid, 2005).

Technological advances have had a major influence on the development of the learning process, especially on the development of learning media (Puspitarini & Hanif, 2019). Utilization of technological advances in learning physics is something that must be done by educators (Apriyanti et al., 2020). Computers as one of the electronic media that can be used for learning physics in the classroom. Programs (*software*) that are run by computers can be used for teaching and learning activities, including the *Microsoft Power Point* and *Microsoft Word* (Yilmazel-Sahin, 2009). Starting from the description above, the writer raises the problem with the title ″Utilization of Microsoft Power Point and Microsoft Word Programs in Learning Physics in Class X Students of SMA Negeri 1 Ma'rang (Indonesia)″.

The formulation of the problem in this study are: (1) How big is the physics learning result for students of class X SMA Negeri I Ma’rang who are taught by applying physics learning through the use of computer media in the Microsoft Power Point program? (2) How big is the physics learning result for students of class X SMA Negeri I Ma’rang who are taught by applying physics learning through the use of computer media in the Microsoft Word program? (3) Is there a significant difference between the physics learning outcomes of students who are taught by applying physics learning through the use of computer media in the Microsoft Power Point program and the physics learning outcomes of students who are taught through the use of computer media in the Microsoft Word program?

Process The teaching and learning process is the core of the overall educational process (Sudjana S, 2002). In the teaching and learning process, there are integrated activities between

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students who learn and teachers who teach (Haling, 2007). Learning is a complex process that happens to everyone and lasts a lifetime (Natawidjaya, 1991). One of the signs that someone has learned is a change in behavior, both changes in knowledge (cognitive), attitudes (affective), and skills (psychomotor) (Hamalik, 2001).

Microsoft Word media comes from Latin which is the plural form of the word medium which literally means intermediary or introduction. Media is an intermediary or messenger from the sender of the message (Arsyad, 2004). If you observe the development of the media, at first the media was only considered as a teaching aid for teachers (*teaching aids*) (Dwijayani, 2019). The tools used are visual aids, namely pictures, models, objects, and other tools that can provide concrete experiences, learning motivation, and enhance student learning absorption and retention. However, because they focus too much on the visual aids they use, people pay less attention to aspects of learning design (Tumpu, 1997).

Microsoft Power Point is an application program that is used to compose a presentation. This application is very popular and widely used because it really helps work systems related to presentations (Penyusun, 2004). Power point is a computer application program designed to help create a medium for delivering a paper or manuscript that is presented through a digital presentation (Bolkan, 2018; Nouri & Shahid, 2005). Power point has worksheets that are connected from one page to the next.

Microsoft Word is an application program from Microsoft Office that functions as a word processor. By using this application it is possible to create manuscripts in the form of documents such as reports, papers, correspondence, proposals and so on using an attractive format and appearance. In addition, it is also possible to insert tables, pictures, or graphics in the script that is being created with the facilities provided by Microsoft Word.

METHOD

Type of research is quasi-experimental with the research design used is non equivalent control group design. This research design is one type of quasi-experimental research which can be described as follows **Table 1**:

Table 1. non equivalent control group design

Group (Class)	Treatment	*Posttest*
E	X_1	O_1
K	X_2	O_2

(Baharuddin, 1984)

Description:
E : Experimental class
K : Control class

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X1 : stating the treatment in the experimental class (teaching using the Microssoft Power Point Program)
X2 : stating the treatment in the control class (teacing using the Microsoft Word Program)
O1 : group observation experiment after treatment
O2 : observation of the control group after treatment

FINDING AND DISCUSSION

The description of physics learning outcomes between the two groups, namely the group of students who were taught using power point media as an experimental group and a group of students who were taught without using power point as a control group on the subject of "Dynamic Electricity" are summarized in **Table 2** below. Below is:

Table 2. Statistics of experimental group physics learning outcomes score and control group of class students

Statistics	Values Statistics	
	Experiment Group	Control Group
Sample size	40	39
Highest score	14	15
Lowest score	5	3
Range of scores	9	12
Mean score	9.58	8.21
Standard deviation	2.47	2.83
Variance	6.101	8.009

After the researchers analyzed the results of their research, the following data were obtained: Based on the results of descriptive and inferential analysis, it showed that the physics learning outcomes of class X students of SMA Negeri 1 Ma'rang, Indonesia who took learning using computer media through the Microsoft Power Point program obtained an average total score 9.58 of the 20 possible total scores with a standard deviation of 2.47 out of 40 students in the experimental group. The low category was at a score of 5-8 as many as 12 students or 30.00%, the medium category was at a score of 9-10 as many as 16 students or 40.00% and for the high category is at a score of 11-14 or 30.00%.

As for students who take part in learning using computer media through the Microsoft word program, an average total score of 8.21 out of 20 total scores may be achieved with a standard deviation 2.83 out of 39 students in the control group. The low category was at a score of 3-7 as many as 19 students or 48.72%. The medium category was at a score of 8-9 as many as 9 students or 23.08% and for the high category it was at a score 10-15 or 28.21%.

The results of learning physics in learning using computer media through the Microsoft power point program obtained an average total score that is higher than the results of learning

physics in learning using computer media through the Microsoft word program in class X SMA Negeri 1 Ma'rang. This proves that learning physics through learning using computer media through the power point program has better learning outcomes (Arikunto, 1997; Jones, 2003; Lari, 2014; Leder et al., 2019).

This can be applied to the teaching and learning process, namely learning using computer media through the Microsoft Power Point program that is tailored to the concept or subject to be taught so that it will help improve physics learning outcomes and students will enjoy the subject (Fitria & Nurafni, 2021; Gier & Kreiner, 2009; Nouri & Shahid, 2005).

CONCLUSION

Based on the results of the study indicate that there is a significant difference between students who are taught using computer media through the Microsoft Power Point program and students who are taught using computer media through the Microsoft Word program in class X SMA Negeri 1 Ma'rang, Indonesia. Thus learning using computer media in the power point program is one alternative that can be chosen by teachers in delivering subject matter in class so that student learning outcomes increase.

Based on the results of the study, the implications of these conclusions are as follows: (1) To teachers in the field of study, they should pay attention to the situation of the symptoms that cause low physics learning outcomes and then try to find alternative solutions; (2) If possible the subject matter (appropriate subject matter), the teacher should use learning using computer media in the power point program to improve physics learning outcomes.

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