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Effectiveness of Implementing E-module Based on Contextual Teaching and Learning to Improve Learning Outcomes and Class XI IPS in SMA Negeri 1 Soe

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E-Module, Contextual Teaching, Learning Model, Learning Outcomes

ABSTRACT
Effectiveness of Contextual-Based E-Module Application Teaching And Learning To Improve Learning Activities, Learning Outcomes And Critical Thinking Ability Of Students In The Eyes Of Economics Students Class X I IPS SMA Negeri 1 Soe This research aims to determine the Effectiveness of The Application of E-Module Based on Contextual Teacing And Learning To Increase Learning Activities, Learning Outcomes andStudents' Critical Thinking Ability in ABPD and APBN materials in the Eyes of Economics Students Class X I I PS SMA Negeri 1 Soe. This research is a pseudo-experimental research with one-group pretest and posttest design research design. The experimental class was treated by applying an e-module model based on the contextual teaching and learning model while the control class was treated by applying a conventional learning model. Data analysis used the manova test with a significance level of 5%. The results showed that there was a difference in student learning activities in economics subjects between classes that did not apply contextual teaching and learning-based e-modules , there was a significant value of 0.0 16 or < 0.05 and those that appliede-module Based on contextual teaching and learning, there is a significant value of 0.000 or < 0.05.

Introduction

Along with the rapid development of science and technology and the attack of diseases that are very dangerous for human attacks such as Covid-19, education is required to advance. Improving the quality of national education, one of which is through teaching and learning methods applied in schools, can foster innovative and creative attitudes and behaviors to students. National education needs to be carried out regularly, integrated, and harmoniously in accordance with the development of development and progress of science and technology. According to the Law of the Republic of Indonesia No. 20 of 2003 concerning the National Education System chapter II article 3 (2003: 5)

states that national education functions to develop abilities and form a dignified national character and civilization in order to educate the nation's life, aiming to develop the potential of students to become human beings who have faith and piety in God Almighty, have a noble character, healthy, knowledgeable, capable, creative, independent, and become a democratic and responsible citizen.

With the development of existing approaches, strategies, models, and learning methods, It is very necessary due to the impact of COVID-19 which requires students to study online or study remotely, So strategies, models, methods and learning media must be developed according to current needs. Teachers must have creative abilities to be able to improve student learning outcomes and critical thinking skills by developing learning media that are able to encourage students to learn independently or learn remotely. With this, teachers must be able to encourage students to learn independently to be able to improve learning outcomes and students' critical thinking skills, because students' learning outcomes and thinking abilities have a very important role to develop.

Technology-based learning is now starting to develop in the world of education, Not only for teaching media, but multimedia-based teaching materials have also begun to be developed. Multimedia-based teaching materials can also be used as learning media, one of which is *an e-module*. Soekartawi (Pratama, 2016): etymologically *e-module* consists of two parts, namely *electronic* and *module.* The letter 'e' or *electronic* and the word '*module*', The word 'electronic' in learning is the use of *electronic* tools such as computers to store, analyze, and distribute information in the learning process (Saggaf et al., 2014); (Salam, 2015). While the word module is a learning tool that contains material, methods, and ways of assessing that are clearly and systematically designed to achieve learning objectives. Broadly speaking, e-modules are the same as print modules, only these *e-modules* use electronic devices and are *multimedia-based*. This *e-module* can also be used as a learning medium like a printed module.

One of the learning resources that has an important role and great benefit in learning is teaching materials (Belawati, 2003:14-19). Teaching materials can be interpreted as materials or subject matter that are compiled completely and systematically based on the principles of learning used by teachers and students in the learning process (Sungkono, 2009). The use of teaching materials includes roles for teachers, students, in classical, individual, and group learning. The role can be explained as follows, for teachers, teaching materials have a role of (1) saving the teacher's time teaching, (2) changing the role of the teacher from a teacher to a facilitator, (3) improving the learning process to be more effective and interactive. In individual learning, teaching materials have a role (1) as the main media in the learning process, (2) tools used to compile and supervise the process of students obtaining information, (3) supporting other individual learning media (Wulandari, 2012).

Based on this phenomenon, researchers have tried to utilize ICT technology in learning that contains animated powerpoints, macromedia-based videos for learning, but researchers are not satisfied because it is only an incidental use. Therefore, researchers are interested in developing this learning *ICT* that can be utilized by all students in the Educational Research Statistics course. For this reason, the E-Module on Education Statistics was developed to improve the learning outcomes of the Education Research Statistics course in the Department of Social Studies Education.

a. e-module

To further complement the teaching materials used by teachers in learning activities and apply learning activities that use electronic media, other teaching materials are needed, namely *E-modules* which are teaching materials that can help students in learning the subject matter independently which in use uses electronic media. *E-Modules* can assist teachers in explaining the subject matter to be explained. *E-Modules* have an important role in learning. Learning can take place effectively when using *E-modules* because it can help students who have difficulty in learning. *E-Modules* can help students to learn independently and can measure their own level of understanding, in *E-modules* there are ultimate goals in learning activities that will be carried out so that students can know what things they must master or understand to achieve the learning goals that have been set. *E-Module* as a teaching material that can help students to learn independently has a communicative and bidirectional language that makes it easier for students to learn the subject matter. *E-Module* is also a teaching material that is arranged systematically and can present material in sequence, in the *E-module* there are materials and practice questions that make it easier for students to learn the material. *E-Module* learning is felt to be needed in explaining capital market material which has many sub-chapters.

According to (Daryanto, 2013) A good learning e-module has several characteristics, namely self-instruction, self-contained, stand alone, adaptive and user friendly. E-Module is a learning module that in its presentation uses electronic media. So that the characteristics of E-modules are the same as the characteristics of modules, namely self-instruction, self-contained, stand alone, adaptive and user friendly. Self-instruction is an important characteristic of E-modules and must be present in E-modules. An E-module must have clear instructions so that students can easily use it and students know what kind of learning objectives they should achieve. Self contained is the subject matter presented in a complete E-module so that students can study the material thoroughly. Stand alone, namely the E-module learning must stand alone or not depend on other teaching materials or does not require other supporting tools in its use. If the learning E-module still requires other teaching materials in its use, the E-module learning is not categorized as a stand-alone learning E-module. Adaptive, namely E-module learning has the power to adapt to the development of science and technology. A good learning e-module must be able to adapt to the development of science and technology. Learning E-modules can be said to be adaptive if the E-modules are in accordance with the development of science and technology and are flexible to use. Meanwhile, the characteristics of the user-friendly E-module are that the E-module learning should be friendly or familiar with the user. Every exposure and instruction contained in the E-module is helpful and friendly to the wearer. One form of user-friendly learning E-module is using simple language.

According to Nurmayanti (2015), e-module is a form of presenting independent teaching materials to achieve certain learning objectives that are systematically organized into the smallest learning units presented in electronic format, where there are animations, audio, navigation that make users more interactive with this program.

This e-module media is made to be able to use any softwere application Astiti, Darmawiguna, and santyadiputra, (2015); Juliantini, Darmawiguna, and putrama, (2015; Priatma, Putrama, and Divayana, (2017). One of them is by using Adobe Flash softare. The module is an organization of subject matter that pays attention to the educational function of Santyasa, (2009). The module is able to bring learners to the expected basic competence.

Strengthening the learning process to the maximum E-module can help teachers facilitate students in learning (Asrial, et al, 2020; Citrawathi, et al, 2016). (Dewi et al., 2019)(Diantari et al., 2018); Udayana, et al, 2017) stated that E-modules are digital learning media that are systematically arranged so that students can learn independently and solve existing problems. Based on this opinion, it is concluded that the E-module is a systematically compiled digital teaching material presented in electronic form. E-modules can improve student learning outcomes as well as student learning activities in learning. This is proven by research conducted by Wirawan, et al (2017); Aryawan, et al (2018) and Hastari, et al (2019) who stated that E-modules can improve learning outcomes and critical thinking skills of students so that they are suitable for supporting the learning process and improving student learning outcomes significantly, effectively improving through the development of science and technology.

b. Learning Contextual Teaching and Learning

Contextual Teaching and Learning is a learning strategy that emphasizes the process of full student engagement to be able to find the material being studied and connect it with real-life situations so as to encourage students to apply it in their lives. According to (Sanjaya, 2011) Contextual learning is a learning concept that helps the teacher relate the material he teaches to the student's real-world situation and encourages students to make connections between the knowledge they have and the application of daily life.

According to (Trianto & Ibnu, 2014) Contextual learning is a learning approach that seeks so that students can explore their abilities by learning them by learning concepts while applying them to the real world around the student environment (Lestari & Yudhanegara, 2015) (Suryani & Agung, 2012) said Contextual Teaching and Learning is an educational process that helps students see in the academic material they are studying by connecting academic subjects with the context of their daily lives, namely, with the context of personal, social, and cultural life.

This CTL-based e-module is an electronic module packaged in the form of software, in which there are animations, videos, images and others that are relevant to materials related to learning Economics. The e-module in this study was displayed in the form of a flip book. A flip book is one of a type of animation made from a stack of paper resembling a thick book, on each page is depicted the process of something that later looks moving or animated. The idea of flip books that were originally only used to display animations is now being adopted for various types of digital applications, such as magazines, modules and so on. Nowadays flip books are more varied not only text, images, video and audio can also be inserted in flip books (Diena, et al).

c. Learning Outcomes

Learning outcomes are defined as the level of individual ability, both in the field of knowledge and skills as a result or experience of learning. Nasution (2003) defines learning outcomes as a change in the individual who learns, a change not only regarding the understanding of knowledge but also forms skills, passion in the individual.

Learning outcomes are expected goals for all parties but learning outcomes must be relevant to learning objectives. The economic learning outcomes to be measured are cognitive aspects of the cognitive aspect closely related to the reasoning of (MAEMUNAH, 2019). One of the efforts to improve learning outcomes is the ability of teachers to deliver subject matter. Teachers are an important component in determining

the quality of education, the readiness of teachers in carrying out their professional duties including educating, teaching, and training must be supported by competencies that support their profession which is always required to produce good performance.

Learning is a process of effort made by a person to obtain a new behavioral change as a whole, as a result of his own experience in interaction with his environment (Haris & Jihad, 2013) and (Suprihatiningrum, 2013) learning outcomes are abilities acquired by children after going through learning activities and assessed through the evaluation of students' abilities as a result of learning actions and can be observed through student learning activities is a change in behavior that includes cognitive, affective and psychomotor aspects. is a behavioral change that includes cognitive, affective and psychomotor aspects of (Parwati et al., 2018). Based on the interviews of teachers of economics subjects and several social studies class students, it is stated that the results of learning through midterm exam scores (UTS) and final semester exams (UAS) there are still many students whose scores do not meet the minimum requirements criteria (KKM) of SMA N 1 Soe. From the minimum prosecution criteria (KKM) of SMA N 1 Soe, class X is 70, class XI is 72 and class XII is 75. Based on the KKM above, there are still many students who choose low UTS and UAS scores, namely class X 25%, kela XI 35 and class XII 40% whose scores are sufficient KKM and have not reached KKM, namely class X 75%, class XI 65% and class XII 60%.

According to the students, it is acknowledged that the results of the debate are still lacking through UTS and UAS is still low because the learning method in the teaching and learning process is the rhythmic method. So that the students also feel bored When the teacher explains in front. And some students are also cool to tell stories Some of the students who are cool playing their henppone are only a small part of the focus when the teacher explains that it can be caused by many students who have delays in learning economics. There are also learning media that do not attract the attention of students in following the continuation of the teaching and learning process. Because learning media is very important in attracting students' attention to learning, learning media that students find less attractive are printed books and printed modules that are less effective in the teaching and learning process and less attractive to students so that student learning outcomes are low.

Based on the description above, this research applies e-modules based on contextual teaching and learning in the learning process. To explore the solition of the problems that have been presented. In this regard, researchers applied emodules in the study with the title "the effectiveness of the application of E-Modules Based on contextual teaching and Learning to improve learning outcomes of economics subjects class XI social studies SMA Negeri 1 Soe.

Hypothesis

Are there differences in student learning outcomes in Economics subjects between classes that apply and those that do not apply contextual teaching and learning-based e-modules?

Research methods

This type of research is quantitative research. The research method used in this study is the pre-experimental research method (Pre-Experimental Design). Experimental research is a research method used to find the effectiveness of certain treatments against others under controlled conditions (Sugiyono, 2018). The design used in this study was one group pretest-posttest design. The population in this study was 23 students of

economics class XI social studies at SMA Negeri 1 Soe. The sample in this study was saturated sampling. The free variable (X) in this study is the effectiveness of the application of E-Modules Based on contextual teaching and learning. The bound variable (Y) in this study is to improve the learning outcomes of economics subjects class XI social studies SMA Negeri 1 Soe. The data collection techniques in this study are test methods and documentation. The research procedure consists of three stages, namely the research preparation stage, the research stage, and the data processing stage. The instrument used in this study used a test question instrument that used a question sheet that was used to find out the results of the assessment of the research conducted. The data analysis method uses normality test, homogeneity test and manova test the effectiveness of pr o test and preetest results.

Results and Discussion

1. Normality Test

Table. 1 Normality Test Pre Test and Post Test

Class	Class	Kolmogorov-Smirnov[a]		
		Statistic	df	Sig.
Pretest learning outcomes	XI IPS 1 eksperimen	0,125	27	0,200*
	XI IPS 2 kontrol	0, 151	26	0,130*
Posttest learning outcomes	XI IPS 1 eksperimen	0,079	27	0,200*
	XI IPS 2 kontrol	0,079	26	0,200*

Based on the calculation of the table above, the pestest value of learning outcomes in the experiment class is 0.200 and the control class is 0.130 the significance value is as large as it means that H0 is received, so the data is normal. Based on the calculation of the table above, a posttest value of learning outcomes was obtained in the experiment class of significance of 0.200 and the significance control class of 0.200 the significance value of meaning that H0 was received, then the data is normal. Based on the analysis of the table above, it is known that the pretest values of learning outcomes in the experimental class are significant and the control class of significant values are 0.200 and 0.130 and in the prostest class the learning outcomes in the experimental class are significant and the control class significant values of 0.200 and 0.200 mean that H0 is accepted, then the data is normal, while the thinking ability value in the experimental class and the control class the significance value that H0 is accepted, then the data is normally distributed.

2. Homogeneity Test

Table 2 Homogeneity Test Pre-test And Post-test Control Classes and Experiments

	Levene's Test Of Equality Of Error Variances[a]			
Class	**f**	Df1	Df2	Sig
Pre-test learning outcomes	14,561	1	51	0,000
Post-test learning outcomes	1,437	1	51	0,236

Based on the table, it can be explained that the significance value of the pretest of learning outcomes is 0. 000 then a value of less than 0.05 means that H0 is accepted, so it can be concluded that the data on the learning outcomes have the same or homogeneous variations. Based on the table, it can be explained that the significance value of the prosttest of learning outcomes is 0. 236 then a value of less than 0.05 means that H0 is accepted, it can be concluded that the data on the learning outcomes have the same or homogeneous variations. Based on the table above, it can be explained that the significance value of the pretet of learning outcomes is 0.000 and the posttest of learning outcomes is 0. 236. A significant value of more than 0.05 then it can be concluded that the data have the same or homogeneous variations.

3. Manova Test / Hypothesis Test

Table 3 Hypothesis Test
Tests of Between-Subjects Effects

Class	df	Mean Square	F	Sig
Pre-test learning outcomes	**1**	774,195	6,258	0,016
Post-test learning outcomes	**1**	2779,898	37,612	0,000

Based on the pretest hasil manova test in two different classes, namely in the experimental class and the control class, it can show that there is effectiveness in the application of e-modules to improve student learning outcomes in economics subjects with a significant value of 0.016 or < 0.05. Berarti H0 no diterhyme and Ha dierima. Based on posttest hasil manova test In the two different classes, namely in the experimental class and the control class, there can be effectiveness in the application of e-modules to improve student learning outcomes in economics subjects with a significant value of 0.000 or < 0.05. Berarti H0 no diterhyme and Ha accepted and the effectiveness of applying e-modules based on the Contextual Teaching and Learning learning model can improve student learning outcomes in economics subjects can be seen from the lack of significant value through the manova pretest and posttest testsBased on the control class and the experimental class can show a result of 0.000 which is smaller than the standard significance is 0.05. Berarti H0 no diterhyme and Ha dierima. In the process of this study. The research sample is students who can participate in all learning activities, namely pre-t. and posttest activities. If in both activities, the student does not participate in one of them, the student is naturally not included in the research sample.

Based on this provision, as many as 1 student from the experimental class and control class were not included in the research sample, so the number of research samples in the experimental class was 25 students and the control class was 24 students. Learning activities took place during 6 meetings, it can be detailed that six meetings took place in class to receive economic materials, namely apbd and apbn. Holding pretests and posttests, 6 meetings took place in the classroom to carry out learning activities with APBD and APBN materials. Pre-learning activities are carried out before all learning activities begin and posttests are given after all learning activities are completed.

Conclusion

Based on the results of the research and discussion hypothesis test, it can be concluded that there are differences in student learning outcomes in Economics subjects between classes that apply and those that do not apply e-modules based on contextual teaching and learning. Suggestions that can be given based on the results of studies from research that increase the application of contextual teaching and learning-based e-modules to student learning outcomes problems are that teachers can apply contextual teaching and learning-based e-modules to improve student learning outcomes in Economics subjects.

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