Research Paper

Development of Problem-Based Learning-Based Economic E-Module with Hybrid Learning Approach

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ABSTRACT

The development of appropriate learning instrument will be able to make the learning process run optimally and it is hoped that it will provide a different experience for students, especially to understand the material they are learning. The purpose of this study was to develop an economic e-module based on problem-based learning using a hybrid learning approach. In addition, to determine the existence of problem solving skills, creative thinking skills, and student learning outcomes in economic subjects. The method used was research and development. The results obtained were 1) an increase in students' abilities in pre-action student's ability of 69.81, then in the first stage of the trial it showed an increase of 80.37, and in the second stage of the trial also showed an increase of 85. ,56; 2) an increase in students' abilities like in the pre-action student's ability of 71.6, then in the first stage of the trial showed an increase of 82.56, and in the second stage of the trial also showed an increase of 93.06; and 3) pair 1 between the pre-action and stage 1 trials of 0.042 <0.05 indicated a significant difference, then from the results of pair 2 between the stage 1 trial and stage 2 trials of 0.005 <0.05 also indicated the presence of a significant difference. So the results of pair 1 and pair 2 showed a significant difference between before and after the development of an economic e-module based on problem-based learning with a hybrid learning approach.

Keywords: E-Modul, Problem-Based Learning, Hybrid Learning

INTRODUCTION

Learning provides opportunities for the development of human resources in the current era, because with an increase in education, it is expected to be able to change and even improve the quality of human resources. For this reason, it is necessary to improve education to support this so that later it will be able to support the success of various things. In education at MAN 1 Kediri Regency, especially class X IPS students are required to think creatively and be able to solve problems, so teachers must be creative in contributing to good learning to improve student learning outcomes. Two-way learning will make students more creative, especially to solve problems.

To support this, an appropriate learning model is needed; a learning model that supports learning that is centered on students, one of which is problem-based learning. Problem-based learning, the teacher provides facilities for students to do learning work independently or in groups with the aim of analyzing and solving a problem according to information from various relevant sources that have been carefully investigated beforehand (Assegaff & Sontani, 2016).

In addition to the application of appropriate learning models, what is no less important is the availability of learning media that supports learning. The development of appropriate e-modules based on current

conditions will support the achievement of effective learning, because e-modules are arranged according to the characteristics of the class or students and adapted to needs. The module is one part of learning, which students learn either independently or the students teach themselves (Winkel, 2009). Learning modules are part of teaching materials that are designed systematically and attractively so that they are easy to learn independently.

Furthermore, looking at the current conditions where learning with the help of technology is also very necessary to facilitate the learning process, the existence of a hybrid learning approach will facilitate interaction in learning so that it can run more flexibly. This is because the learning process is not only face-to-face, but learning can also take place synchronously or synchronously. For this reason, the combination of learning models, learning approaches and mastery of Information and Communication Technology in this study is expected to be able to bring fresh air in making it easier to convey material and make it easier for students to master the teacher's material. Especially in this research, the combination of technology-based learning media and learning models can improve problem solving skills, creative thinking skills and improve student learning outcomes.

LITERATURE REVIEW
E-Module
Modules are learning instruments written or printed form that are systematically formed, contain educational modules, educational goals are based on basic competencies or as markers in achieving competence, instructions for independent learning activities, and provide opportunities for students to test themselves through the exercises presented in this book. the material (Hamdani, 2011). E-module is a set of digital or non-print media that is made systematically and used for independent learning purposes, thus directing students to learn to dismantle problems with their own

tricks (Santosa et al., 2017). The electronic module is a form of development from the print module, but in digital form, of course, it still adapts the printed version of the module (Sugihartini & Jayanta, 2017). E-modules can also be referred to as modules that are created in electronic form whose use is by using computer media (Imansari & Sunaryantiningsih, 2017). E-module is a teaching material which is able to help students to learn the material provided by the teacher independently where it is used with electronic media (Wulansari et al., 2018).

Problem-Based Learning
Problem-based learning is education that uses an atmosphere or by providing certain problems as a factor in the learning process so that students can actively and cooperatively acquire or integrate new knowledge (Nugraha & Mahmudi, 2015). The problem-based learning model expects group involvement in solving a problem as the core focus in learning (Sudarisman & Sunarno, 2012). Furthermore, the characteristics of problem-based learning are the focus in solving problems, the responsibility in solving problems comes from students and teachers in solving problems (Rochani, 2016). The following is the flow of the problem-based learning model (Hamdani, 2011), yakni: 1) they are: 1) The teacher conveys the educational objectives, conveys the logistics needed, and motivates students to participate in problem solving activities; 2) The teacher invites students to define and organize learning tasks related to these problems; 3) The teacher urges students to record data, conduct experiments in analyzing problem solutions, gathering information, and hypotheses; 4) The teacher helps students design and prepare suitable works, such as reports to help group work; and 5) The teacher helps students in determining the reflection or assessment of their investigation and the method used.

Problem Solving Ability

The ability to solve problems is the ability to implement the knowledge possessed towards a new condition that involves the concept of high-level thinking (Ulya, 2016). The ability to solve problems is the ability and process in solving problems that arise in learning (Sumartini, 2018). The ability to solve problems is an ability that must be possessed, with the aim that students are more accustomed to solving or overcoming problems given by the teacher for learning (Mariam et al., 2019). Problem solving strategy is a way where a direct use of problems in helping students understand the material to be studied (Anggraini et al., 2020). The following are four steps in problem solving (Rahman & Wickelgren, 1975), They are: 1) Analysis and understanding the problem (analyzing and understanding the problem); 2) Designing and planning solution, 3) Finding a solution of the problem and 4) Checking solution.

Creative Thinking Ability

The ability to think creatively can be said as a form of problem-oriented thought activity, able to consider ideas and all information that is considered out of the ordinary with an open mind, and is expected to be able to determine the relationship to a problem solving (Moma, 2015). Creative thinking ability is an ability that can be used by students in developing new ideas and ideas to solve a problem (Setya Putri et al., 2017). The ability to think creatively can be interpreted as an activity carried out by someone in developing a problem into an alternative answer to solving problems related to logic, patterns and systematic sequences (Susilawati et al., 2020). The ability to think creatively can be said to be the ability to think that initially comes from sensitivity to the situation at hand, where in that condition there is a problem that must be solved (Lisliana et al., 2015). The ability to think creatively is a thought activity that can be used by someone in generating a new idea. The following are some indicators of creative thinking ability (Munandar, 2012), including: 1) Fluency thinking; 2) Flexible thinking; 3) Original thinking; and 4) Elaboration ability (skills to elaborate).

Hybrid Learning

Hybrid learning is an online and offline learning approach in carrying out an integrated learning process (Verawati & Desprayoga, 2019). Hybrid learning is a combination of classroom learning and online learning through the use of information and communication technology (Ramdhani et al., 2020). Hybrid learning can be said as a learning model created by mixing and matching between face-to-face learning and the use of computer and internet technology, so that with hybrid learning can make it easier for students to gain knowledge from various sources and get detailed feedback from teachers (Putra, 2015). Hybrid learning is a combination of face-to-face learning with online learning or e-learning (Hidayat & Andira, 2019). The current development of hybrid learning, especially in the pandemic era (Hendrayati & Pamungkas, 2016), include: 1) Face to face learning; 2) Synchronous virtual collaboration; 3) Asynchronous virtual collaboration; and 4) Self pace asynchronous.

MATERIALS & METHODS

The research method used was research and development (R&D). Research and development is a method that uses and produces certain products (Sugiyono, 2017). The location in this study was State Islamic School 1 Kediri Regency. The reason for choosing this location was because the school has economic lessons. From interviews with economics teachers, it can be seen that the ability to solve problems, creative thinking skills and student learning outcomes has not been optimal so that new innovations are needed in the learning process. The use of problem-based learning-based e-module media with an interesting hybrid learning approach is expected to improve these conditions. The subjects in

this study were students of class X social State Islamic School 1 Kediri Regency.
To determine the ability to solve problems, the categories used are as follows:

Table 1. Criteria for Problem-Solving Ability (Ariani et al., 2017)

Score	Category
81 – 100	Very good
61 – 80	Good
41 – 60	Fair
21 – 40	Inadequate
0 – 20	Very Inadequate

To determine the ability to think creatively, the categories used are as follows:

Table 2. Criteria for Creative Thinking (Febrianingsih, 2022)

Creative Thinking Ability Level	Category
81 – 100	Very Creative
66 – 80	Creative
56 – 65	Pretty Creative
41 – 50	Less Creative
0 – 40	Not Creative

Furthermore, to find out the difference before and after the development of an economic e-module based on problem-based learning, in this study a comparative test was used using SPSS software in this study.

RESULT

The research has results including the results of the analysis of students' problem-solving abilities, students' creative thinking skills, and student learning outcomes.

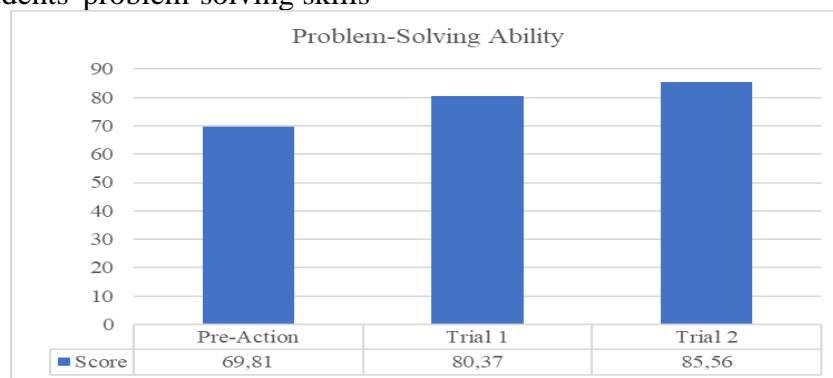Results of students' problem-solving skills

Figure 1. Problem-Solving Ability

From the Figure provided above, it can be seen that there are differences in problem-solving abilities experienced by students during the learning process, where the results indicate a change in each process.

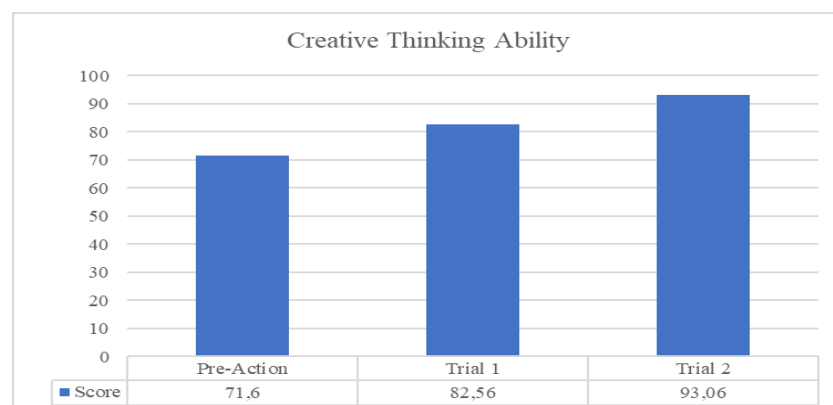The results of students' creative thinking skills

Figure 2. Creative Thinking Ability

From the figure provided above, it can be seen that there are differences in creative thinking abilities experienced by students during the learning process, where the results show a change in each process.
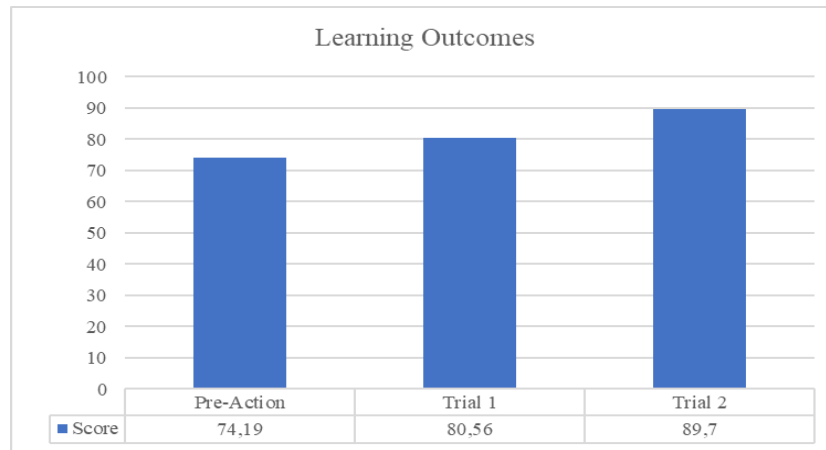
Student learning outcomes

Figure 3. Student Learning Outcomes

From the picture above, it can be seen that there are differences in learning outcomes experienced by students during the learning process, where the results indicate a change in each process.

Next, a comparative test was carried out using the help of SPSS software, the results are as follows:

Table 3. Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Pre-Action	74.19	27	7.494	1.442
	Trial 1	80.56	27	13.611	2.619
Pair 2	Trial 1	80.56	27	13.611	2.619
	Trial 2	89.70	27	7.363	1.417

From the table provided above, it can be seen that there is an average learning outcome obtained by students during learning, where the results indicate a change in each process.

Table 4. Paired Samples Correlations

		N	Correlation	Sig.
Pair 1	Pre-Action & Trial 1	27	-.005	.981
Pair 2	Trial Sesion 1 & Trial 2	27	-.010	.961

From the table provided above, it can be seen that there is a correlation level obtained by students during the learning process, where the results indicate a change in each process.

Table 5. Paired Samples Test

		Paired Differences							
				Std.	95% Confidence Interval of the Difference				Sig.
		Mean	Std. Deviation	Error Mean	Lower	Upper	t	df	(2-tailed)
Pair 1	Pre-Action - Trial 1	-6.370	15.569	2.996	-12.529	-.211	-2.126	26	.043
Pair 2	Trial 1 - Trial 2	-9.148	15.538	2.990	-15.295	-3.001	-3.059	26	.005

From the table above, it can be seen that there is a significance obtained by students during the learning process, where the results indicate a change in each process.

DISCUSSION

With the development of an economic e-module based on problem-based learning, it shows various kinds of changes both in terms of students' abilities and the learning outcomes shown by students. Especially

with conditions like now, the learning process in schools is carried out using a hybrid learning approach, this is done because schools still carry out certain restrictions so that learning is carried out alternately online and offline. From these conditions, it is not easy to carry out learning optimally, but with the problem-based learning-based e-module developed, it shows extraordinary results. This is indicated by an increase in problem-solving skills, creative thinking skills and student learning outcomes.

The results of students' problem-solving abilities can be seen that there is an increase in students' abilities where in the pre-action student's ability of 69.81, then in the first stage of the trial it shows an increase of 80.37, and in the second stage of the trial also shows an increase again that is equal to 85.56. From these results, it can be said that students' problem-solving abilities showed an increase with the existence of problem-based learning-based economic e-modules.

From the results of students' creative thinking abilities, there was an increase in students' abilities where in the pre-action student's ability of 71.6, then in the first stage of the trial it showed an increase of 82.56, and in the second stage of the trial it also showed an increase of 93 ,06. From the results above, it is known that students' creative thinking skills show an increase with problem-based learning-based economic e-modules.

From student learning outcomes, it can be seen that it shows an increase in learning outcomes where in the pre-action student learning outcomes of 74.19, then in the first stage of the trial it shows an increase of 80.56, and in the second stage of the trial it also shows an increase again. That is equal to 89.7. From the results above, it is known that student learning outcomes exist in the presence of an economic e-module based on problem-based learning.

From the results of the comparative test using SPSS software, the same results were obtained, namely the average value of pre-action students was 74.19, then in the first

stage of the trial it showed an increase of 80.56, and the second stage of the trial also showed an increase of 89.7. From the results shown above, it can also be seen that the level of significance of pair 1 between pre-action and stage 1 trials of 0.042 <0.05 indicates a significant difference. Furthermore, from the results of pair 2 between the first stage of the trial and the second stage of the trial, 0.005 < 0.05 also showed a significant difference. So the results of pair 1 and pair 2 show a significant difference between before and after the development of an economic e-module based on problem-based learning with a hybrid learning approach. This study is in line with research by (Surindra et al., 2017), which shows that student learning outcomes have shown an increase since the use of problem-based learning-based learning modules.

CONCLUSION

The conclusions are: 1) students' problem-solving skills increase starting from pre-action, stage 1 trial, and stage 2 trial; 2) students' creative thinking skills also increased starting from pre-action, stage 1 trial, and stage 2 trial; and 3) student learning outcomes also showed an increase starting from pre-action, stage 1 trial, and stage 2 trial. With significant results shown, it can be generalized that the problem-based learning-based economic e-module developed can be applied and can make the learning process both online and offline more optimal. Because the e-module developed has been structured in such a way as to make it easier for students to read and study it, besides that the examples contained in this economics e-module are also problem-based learning by using examples of problems that exist around students so that it is easier to understand. make it easier for students to understand the economics e-module.

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