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Development of the Brainstorming, Exploring, Talking About, Applying (BETA) Learning Model to Improve Social Studies Students' Critical Thinking

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Abstract This research aims to develop a learning model Brainstorming, Exploring, Talking about, Applying (BETA) which is effective for every online and offline learning process and a combination of both. The research personnel involved 3 lecturers and 8 students from the English Language Education study program and the History Education study program, FKIP Mahasaraswati University Denpasar. Method research and development (R&D) is used to develop the BETA learning model. Research on the development of the BETA model has been carried out in several stages, namely model development, model testing and implementation of the learning model in the classroom as well as implementation of the BETA model through E- Learning. The BETA model can be implemented by teachers well in the classroom according to the stages of implementing the model, so that students' critical thinking abilities can be improved. It is hoped that research can be carried out on an ongoing basis to apply the BETA learning model in other schools with the aim of introducing the learning model widely in society so that it can improve students' critical thinking abilities. Developing E-Learning better so that it can reach all groups of teachers and students who use E-Learning.

Keywords: critical thinking, e-learning, BETA model, learning

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Abstrak *Penelitian ini bertujuan untuk mengembangkan model pembelajaran Brainstorming, Exploring, Talking about, Applying (BETA) yang efektif untuk setiap proses pembelajaran daring dan luring serta perpaduan keduanya. Personil periset melibatkan 3 dosen dan 8 mahasiswa program studi Pendidikan Bahasa Inggris dan program studi Pendidikan Sejarah, FKIP Universitas Mahasaraswati Denpasar. Metode research and development (R&D) digunakan untuk mengembangkan model pembelajaran BETA. Penelitian pengembangan model BETA telah dilakukan dengan beberapa tahapan yaitu pengembangan model, pengujian model dan implementasi model pembelajaran di kelas sertaimplementasi model BETA melalui E-Learning. Model BETA dapat diimplementasikan oleh guru-guru dengan baik di kelas sesuai dengan tahapan pelaksanaan model, sehingga kemampuan berpikir kritis siswa dapat ditingkatkan. Penelitian diharapkan dapat dilakukan secara berkelanjutan untuk menerapkan model pembelajaran BETA di sekolah-sekolah lainnya dengan tujuan untuk mengenalkan model pembelajaran secara luas di masyarakat sehingga dapat meningkatkan kemampuan berpikir kritis siswa. Mengembangkan E-Learning lebih baik lagi sehingga dapat menjangkau semua kalangan guru dan siswa yang menggunakan E-Learning tersebut.*

Kata kunci*: berpikir kritis, e-learning, model BETA, pembelajaran*

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INTRODUCTION

One of the skills in life that needs to be developed is thinking. In everyday life, humans are never separated from thinking activities, according to Plato (in Kowiyuh, 2012: 175) who said that thinking is speaking in the heart. So it can be understood that thinking is a person's mental process that connects facts, ideas or events based on facts so that a person will reach conclusions from what he is thinking. Then Costa (in Kowiyuh, 2012: 175-176) states that thinking consists of the following activities or processes: (1) determining the law of cause and effect, (2) giving meaning to something new, detecting regularities between phenomena, (4) determining shared qualities (classification), and (5) finding the typical characteristics of a phenomenon.

Sardiman A.M (in Triyuningsih, 2011: 13) states that thinking is a mental activity to be able to formulate understanding, synthesize and draw conclusions. As we know, the human thought process is not limited by time and space, someone may think about problems that occur at any time when he saw a new phenomenon. Since children, humans have been carrying out thinking activities, as it is their nature as rational creatures, humans are encouraged to think about new things.

The word "critical" comes from Greek, which means "judge" which was then absorbed by Latin. Critical thinking is the skilled and active interpretation and evaluation of observations and communications, information and arguments. Critical thinking is defined as the process of testing statements and arguments and also determining which is right and which is wrong. Critical thinking can also be interpreted as the ability to say something confidently. Critical thinking is also a systematic process that allows students to formulate and evaluate their own beliefs and opinions. Critical thinking is also an organized process that allows students to evaluate the evidence, assumptions, logic, and language underlying other people's statements (Triyuningsih, 2011: 17-18). So it can be understood that critical thinking is a person's ability to understand an object and be able to express it confidently.

Critical thinking can also be understood as a person's process of thinking deeply about something and thinking about a decision that he or she will take carefully.The expected goal of the critical thinking process is that someone will come to know and understand something that they think about properly and correctly. Critical thinking is a thinking activity that is structured systematically and well organized.

According to Richard Paul (in Kowiyuh, 2012: 176) provides the definition that: "*Critical thinking is that mode of thinking – about any subject, content or problem – in which the thinker improves the quality of his or her thinking by skillfully taking change of the structures inherent in thingking and imposing intellectual standards upon them*. Critical thinking is a mode of thinking about any matter, substance or problem, in which the thinker improves the quality of his thinking by skillfully handling the structures inherent in thinking and applying intellectual standards to them.

Active, persistent (continuous), and thorough consideration of a belief or form of knowledge that is taken for granted in terms of the reasons that support it and the subsequent conclusions that lead to it, John Dewey (in Fisher, 2008: 2). Then, according to Edward Glaser (in Fisher, 2008: 3) defines critical thinking as follows: (1) an attitude of wanting to think deeply about problems and things that are within the range of one's experience; (2) knowledge of examination methods and logical reasoning; (3) a kind of skill to apply these methods. Critical thinking involves rigorous efforts to examine every belief or assumptive knowledge based on supporting evidence and the subsequent conclusions that result. Apart from that, according to Hendra Surya (2012: 180), basic abilities in critical thinking include: a. Analytical thinking skills, b. Ability to think synthetically, c. Ability to solve problems, d. Ability to conclude, e. Ability to evaluate or judge.

Critical thinking can be described as the ability to engage in reflective and independent thinking. In learning that takes place offline or online, students' critical thinking is very necessary to be able to carry out learning well. This is due to the distance that separates teachers and students, so that independent learning can achieve learning goals. Students are expected to be able to identify, analyze and solve problems systematically. Learning models that arouse student motivation so that they continue to improve their competence really need to be developed (Carborgim et al., 2017). Communication skills will of course be a bridge for students and teachers in channeling their ideas and participation in learning that takes place both offline and online.

Teaching effectiveness is the single most important thing for student success (Mantra. I.B. et al., 2017). Students are taught to be more independent and have the spirit to compete positively. Therefore, teachers need to innovate and adapt various learning models so that they can be used in the learning process so that students are truly able to always think critically and creatively in this millennial era. BETA learning model (*Brainstorming, Exploring, Talking about, Applying*) is developed so that students are able to improve critical and creative thinking patterns to apply what they have learned so that the knowledge they have will be increasingly developed and useful.

A learning process can be said to be good if in the teaching and learning process students are active in efforts to improve their learning experience (Syaiful Romadhon et al., 2019). Therefore, in this research, a BETA-based offline and online integration learning model will be developed to improve critical thinking and communication skills that suit students' character.

The objectives of this research are as follows: 1) identify the problems faced by students. 2) understand the learning principles of the BETA offline and online integration model. 3) produce a BETA learning model design 4) test the effectiveness of the BETA learning model. 5) implement the BETA learning model in E-Learning.

This research is very important to carry out considering that the Covid 19 pandemic has had an impact on offline and online learning processes. BETA learning model (*Brainstorming, Exploring, Talking about, Applying*) trains students to improve critical thinking patterns in

expressing abilities as a product of learning outcomes that are beneficial to people's lives. This research uses a clear, structured, BETA-based learning syntax and is not widely used by teachers in schools. If learning is implemented well and according to procedures and with the support of e-learning, it is hoped that it can improve the critical thinking of social studies students.

METHOD

Based on the research problem that must be solved and the objectives to be achieved, this research was carried out through development research (*Research and Development*). According to Sugiyono (2013: 297), research and development methods or in English *Research and Development* is a research method used to produce certain products, and test the effectiveness of these products

Development research methods *Analyze, Design, Development, Implementation, Evaluation (ADDIE)* used in this research. The choice of this method was based on the consideration that this model was developed systematically and based on the theoretical basis of learning design. The following research stages will be carried out:

1. Preliminary Study (Research and Information Collecting). This first step includes needs analysis, literature study, literature study, small-scale research and required reporting standards.
2. Planning Research (Planning). This development research planning includes: a) formulating research objectives; b) estimate funds, energy and time; c) formulate researcher qualifications and forms of participation in research.
3. Design Development (Develop Preliminary of Product). This stage is the initial identification in developing the BETA learning model, namely a) Determining the product design to be developed (hypothetical design); b) determine the research facilities and infrastructure needed during the research and development process; c) determine the stages of implementing design tests in the field; d) determine the job description of the parties involved in the research.
4. Initial Field Testing (Preliminary Field Testing). This step is a limited product test. This step includes: a) conducting initial field tests of the product design; b) is limited, both in the substance of the design and the parties involved; c) initial field tests are carried out repeatedly so that a feasible design is obtained, both in substance and methodology.
5. Revision of Limited Field Test Results (Main Product Revision). This step is an improvement to the model or design based on limited field tests carried out after limited field trials have been carried out. At this initial product refinement stage, more is done using a qualitative approach.
6. Main Field Test (Main Field Test). This step is a broader product test. This step includes a) testing the effectiveness of the product design; b) test the effectiveness of the design, in general, using repetition model experimental techniques; c) The results of the field test are that an effective design is obtained, both in terms of substance and methodology.
7. Revision of Wider Field Test Results (Operational Product Revision). This step is the second

improvement. Refinement of the product from the results of this wider field test will further strengthen the product being developed. Feasibility Testing (Operational Field Testing) is carried out on a large scale: a) testing the effectiveness and adaptability of product designs; b) design effectiveness and adaptability testing involving potential product users; c) the results of the field test are a design model that is ready to be implemented, both in terms of substance and methodology.

8. Final Revision of Feasibility Test Results (Final Product Revision). At this stage, a product has been obtained whose level of effectiveness can be accounted for. The results of improving the final product have a reliable "generalization" value.
9. Dissemination and Implementation of the Final Product. Dissemination and Implementation Providing or presenting research results through scientific forums or through mass media. Product distribution in the form of the BETA learning model must be carried out after going through quality control and will be implemented through an online learning system. The online learning system or electronic learning (E-Learning) will be installed on a server on the Internet. This will facilitate the delivery of the BETA learning model in the form of learning modules that can be accessed anytime and anywhere adaptively and dynamically in various forms of media such as text, audio, images and video.

The development of the BETA learning model based on E-Learning is useful for stimulating creativity and critical thinking on the part of both teaching staff and students. The results of developing this model are also useful for preparing students' creative and critical thinking patterns so that they are able to become independent learners who are ready to enter a higher level of education, namely the MBKM campus program.

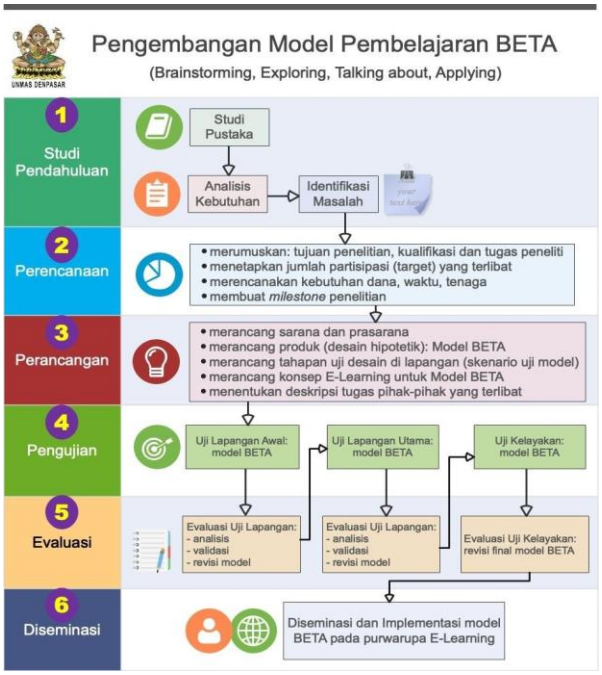

Figure 1. BETA Model Development Flow Diagram

Research into the development of BETA offline and online integrated learning products was carried out at Widiatmika High School. The role of partners in this research is to prepare a research site, both for the learning model testing process and the implementation of the E-Learning based BETA learning model. Partners also contribute in providing input regarding user needs in efforts to improve model implementation. The implementation of the E-Learning based learning model is expected to provide an overview and experience for teachers in preparing students to face learning at the higher strata level (PT). This can prepare students to become more active, critical and creative students so that they are ready to enter the level of learning on the MBKM campus program and carry out learning at PT.

The data collection technique was carried out by distributing questionnaires. Data collection aims to review various literature or literature studies related to model concepts that will be developed according to the product to be made and refers to needs analysis, expert studies and field trials. The data that has been collected is analyzed qualitatively and then discussed through focus group discussions conducted with experts in the field. The results of the analysis are then investigated to see the weaknesses of the learning model developed.

DISCUSSION

Problems Faced When Learning Offline

Learning that is carried out offline is learning that has been carried out in an educational environment. This is also done by students. Even though offline learning is usually done, students still encounter many obstacles. In the table below, data is obtained regarding the obstacles faced by students in carrying out offline learning.

Table 2 Percentage of Obstacles Faced by Students in Offline Learning

No	Questionnaire Questions	Percentage answer	
		Of	No
1	The delivery of material delivered by the teacher offline is easy to understand	85,5%	14,5%
2	Learning is carried out in accordance with learning objectives	85%	15%
3	The duration of offline learning time is in accordance with the allocation of learning time and student needs	88%	12%
4	Feedback Which given teacherdone moment learning takes place	91,5%	8,5%
5	Communication built-in offline learning better and more convincing	90%	10%
6	The campus environment supports the implementation of the process maximum learning	90,5%	9,5%
7	The assignments given are burdensome for students	35,5%	65,5%
8	Availability of adequate facilities and infrastructure for smooth learning	45%	55%

9	Interaction between students is established effectively	90,5%	9,5%
10	The discussions carried out did not support learning	31,5%	68,5%
11	Students are able to carry out learning with Good	92,5%	7,5%
12	The assignments are quite appropriate to the material and objectives learning carried out	90,5%	9,5%
13	Media and learning strategies are used less attract	10%	90%
14	Technique and method learning Which used to support teaching and learning activities	93,5%	6,5%
15	Learning offline more effective compared to online learning	80%	20%

Based on the research results in the form of questionnaire presentations presented in the table above, it is known that offline learning provides students with the opportunity to carry out their learning well. This is known from the fairly high results of the questionnaire, namely 80% of respondents stated that they really enjoyed learning carried out offline. This is also supported by the facilities at the school that can support learning. The highest results were also obtained from data regarding the learning techniques and methods used during offline learning. 93.5% of respondents stated that the strategies used for teaching were very appropriate to the learning conditions. Learning is also carried out in accordance with learning objectives. A very important thing in offline learning that students are interested in is the opportunity to communicate directly with teachers and classmates. This statement received a response from 90% of respondents stating that offline learning can improve communication and the learning carried out is very convincing, so that interactions between students can be well and effective.

Apart from building effective communication, offline learning is also able to give students the opportunity to study longer directly at school so that it has an impact on giving homework that does not burden students. This can be seen because 65.5% of students stated that the assignments given did not burden them. This is different when online learning is implemented. Teachers focus more on learning by giving assignments that are quite burdensome to students. The assignments given are also in accordance with the learning objectives and material. This item shows that there is a fairly good percentage regarding this matter, namely 90.5% of respondents stated that the assignments given were in accordance with the objectives and learning material.

Problems Faced When Learning Online

Table 3. Percentage of Obstacles Faced by Students in Online Learning

No	Questionnaire Questions	Percentage answer	
		Of	No
1	Delivery of material delivered by the teacher online easy to understand	53,5%	46,5%
2	Learning is carried out in accordance with the objectives learning	65,6%	34,4%
3	The duration of online learning time is in accordance with the allocation learning time and student needs	41%	59%
4	Feedback Which given teacherdone moment learning takes place online	50,5%	49,5%
5	Network internet stable when learning online taking place	40, 5%	59,5%
6	The student's living environment can support the process online learning	50,5%	49,5%
7	The assignments given are burdensome for students	89,5%	11,5%
8	Availability of adequate internet/study quota for smooth online learning	42,5%	57,5%
9	Interaction between students is effective during online learning	45,5%	54,5%
10	The discussions carried out did not support learning	56%	44%
11	Students are able to adapt to online learning	60,5%	39,5%
12	Giving assignments beyond assignments during offline learning	90,5%	9,5%
13	The online learning media used is less attractive	50,5%	49,5%
14	Platform Which used by Teacher support online learning	85%	15%
15	Learning online less effective compared to offline learning	87%	13%

Based on the table above, it is known that offline learning is more effective than online learning. This can be seen from the results of the questionnaire which states that 87% of online learning is less effective than offline learning. This is also caused by the online learning media used being less attractive, namely 50.5% of respondents said it was like that and 49.5% said it was interesting. Another obstacle that students face when learning online is giving a lot of assignments. 90.5% of students stated that the assignments given during online learning exceeded the assignments during offline learning, making it burdensome for students. The delivery of material by lecturers during learning is also less than optimal. This can be seen from the percentage of students who stated this was quite high, namely 46.5%.

Many obstacles were also caused by the lack of feedback given by teachers when learning took place online, namely 50.5% of respondents stated that there was not enough feedback given. The duration of time given is also an obstacle that greatly influences the success of online learning. Considering the long time spent online, it causes a lack of internet quota. Another obstacle is the

internet network which does not support the implementation of online learning. 42.5% of respondents stated that an unstable internet network meant that learning could not be carried out optimally.

Based on the overall obstacles faced by students in carrying out online learning, the highest obstacle faced by students, namely 90.5%, is giving a lot of assignments and exceeding the tasks given when offline learning is carried out.

Social Studies Students' Critical Thinking Skills

Students' critical thinking abilities are one of the things that is currently very much needed in learning. This ability is carried out by inviting students to participate in classroom learning. Many learning methods and strategies are applied to improve students' critical thinking abilities. One method applied by teachers to improve students' critical thinking skills is the brainstorming method. In this research, interviews and observations were conducted regarding brainstorming methods that were understood and applied by teachers in the classroom. Based on the results of interviews conducted with teachers in this research, it is known that some information is related to the application of the brainstorming method to develop students' critical thinking skills**.** (Ida Ayu Widiastuti, et al. 2022)**.**

The development of a learning model basically requires measuring improvements related to the use of the model in a class. Where this measurement is through pre-test and post-test carried out in the experimental class as a place for developing learning models using *Brainstorming, Exploring, Talking about, Applying* (BETA). The requirements for calculating statistical results are as follows:

Hypothesis

- H0: There is no increase in students' critical thinking abilities between before being given the model and after being given the model in learning.
- H1: There is an increase in students' critical thinking abilities between before being given the model and after being given the learning model.
- The test uses a two-sided test with a significance level = 0.05
- Test decision
    - H0 is accepted if significance is > 0.05
    - H0 is rejected when the significance is <0.05

The achievement test results from the experimental class in the pre-test before using the BETA model in class and the post-test results after using the model in class can be seen in appendices 10 and 11: The calculations carried out to determine the increase in ability are by means of a t test using independent sample t test with the help of the SPSS 19 program. However, before carrying out the t test, the requirements for normally distributed and homogeneous data must first be met, so it is necessary to carry out normality and homogeneity tests first.

The normality test results obtained from the experimental class tested using the SPSS 19 program are as follows:

Table 4. Data from Experimental Class Normality Test Results

NPar Test

One-Sample Kolmogorov-Smirnov Test

		Pre Test	Post Test
N		30	30
Normal Parameters[a,b]	Mean	74.67	79.93
	Std. Deviation	3.689	3.921
Most Extreme Differences	Absolute	.232	.229
	Positive	.232	.229
	Negative	-.174	-.171
Kolmogorov-Smirnov Z		1.270	1.257
Asymp. Sig. (2-tailed)		.080	.085

a. Test distribusi is Normal.
b. Calculated form data

Based on the data table above, it is known that the post-test critical thinking ability of the experimental class has a sig value of 0.085 > 0.05. So it can be concluded that the data obtained has a normal distribution, while the pre-test score for the experimental class has a sig value of 0.080 > 0.05, which can be concluded that the data obtained has a normal distribution.

Table 5. Data from Calculation of Homogeneity of Post-Test and Pre-Test Values for Experimental Class

Test of Homogeneity of Variances Pre Test and Post Test Experimental Class

Levene Statistic	dfl	dfl2	sig
.004	1	58	.952

Oneway ANOVA

Pre Test and Post Test Experimental Class

	Sum of Squares	df	Mean Sguare	F	Sig.
Between Groups	385.067	1	385.067	26.571	.000
Within Groups	840.533	58	14.492		
Total	1225.600	59			

Based on this table, it can be seen that the significance value is 0.952. Because the significance value is greater than 0.05, a conclusion can be drawn that the post-test and pre-test scores for the experimental class are homogeneous. Based on the calculation results which state that the data is normally distributed and homogeneous, then the data can then be calculated using the t-test. The calculation results are as follows on Table 6.

Table 6. Data from Pre-Test and Post-Test t-test results for Experimental class

T-Test

Group Statistics

Prestasi	n	N	Mean	Std. Devistion	Std. Error Mean
Pre Test dan Post Test Kelas Eksperimen	1	30	74.67	3.689	.674
	2	30	79.73	3.921	.716

Independent Samples Test

	Levene's Test for Equality of Variances		t-test for Equality of Means						
	F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
								Lower	Upper
Pre Test dan Post Test Kelas Eksperimen Noten	.004	.952	5.155	58	.000	5.067	.983	3.099	7.034
			5.155	57.786	.000	5.067	.983	3.099	7.034
	Equal Variances Assumed		Equal Variances Assumed						

Based on the t test results data above, it can be concluded that H0 is rejected. This is known from the results of the sig value of 0.000 being less than 0.05, thus it can be said that there has been a good increase in the value of students' critical thinking abilities between before being given the model and after being given the learning model.

Then, after the critical thinking ability score has been calculated, the level of improvement is calculated, and the questionnaire score can also be calculated similarly. This measurement is also through pre-test questionnaire scores and also post-test questionnaire scores for the experimental class as a place for media development. The conditions used to calculate the statistical value results are as follows:

Hypothesis

- H0: There is no increase in student questionnaire scores between before and after being given learning media.
- There is an increase in student questionnaire scores between before and after providing learning media.
- Testing using a two-sided test with a significance level= 0,05
- Test Decision

- H0 is accepted if significance is > 0.05
- H0 is rejected if significance <0.05

Questionnaire score results data obtained from the experimental class during the pre-test before using media in class and during the post-test after using the BETA model in class can be seen in appendices 10 and 11: Calculations carried out to determine the level of character improvement are through the t test by using an independent sample t test with the help of the SPSS 19 program. However, in carrying out the t test, the requirements for data to be normally distributed and homogeneous must first be met. So first it is necessary to carry out normality and homogeneity tests.

The normality test results obtained from the experimental class tested using the SPSS 19 program are as follows:

Table 7. Data from Normality Calculation Results from Experimental Class Questionnaire ScoresNPar Tests

One-Sample Kolmogrov-Sminov Test

		Pre Test	Post Test
N		30	30
Normal Parameters[a,b]	Mean	131.27	135.53
	Std. Deviation	2.766	2.515
Most Extreme Differences	Absolute	.210	.183
	Positive	.210	.126
	Negative	-.157	-.183
Kolmogrov-Smirnov Z		1.149	1.001
Asymp. Sid. (2-tailed)		.142	.269

Based on the results of data in table 6 above, it can be seen that the experimental class post-test questionnaire has a sig value of 0.269> 0.05, so it can be concluded that the data obtained is normally distributed. Meanwhile, the experimental class pre-test questionnaire has a sig value of 0.142, which can be concluded that the data obtained is normally distributed.

Table 8. Data from Calculation of Homogeneity of Pre-Test and Post-Test Questionnaires for Experimental Class

Anoway

Test of Homogeneity of Variances

Questionnaire Pre Test and post test Experiment class

Levene Statistic	dfl	dfl2	sig
.450	1	58	.505

ANOVA

Experimental class pre-test and post-test questionnaires

	Sum of Squares	df	Mean Sguare	F	Sig.
Between Groups	273.067	1	273.067	39.074	.000
Within Groups	405.333	58	6.989		
Total	678.400	59			

Based on the data above, it can be seen that the significance value is 0.505. Thus, because

the significance value is greater than 0.05, it can be concluded that the pre-test and post-test questionnaire scores for the experimental class are homogeneous. Based on the resulting data having a normal and homogeneous distribution, the data can then be calculated using the t-test. The results of the t-test are as follows on Table 9.

Table 9. Data from the Pre-Test and Post-Test Questionnaire t-test results for the Experimental Class

T-Test

Group Statistics

Prestasi	n	N	Mean	Std. Devistion	Std. Error Mean
Class Pre Test and Post Test Questionnaire Experiment	1 2	30 30	135.53 131.27	2.515 2.766	.495 .505

Independent Samples Test

		Leverene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Angket Pre Test dan Post Test Kelas Eksperimen	Equal Variances assumed	.450	.505	6.251	58	.000	4.267	.683	2.900	5.633
	Equal Variances Not Assumed			6.251	57.484	.000	4.267	.683	2.900	5.633

Based on the t test results data above, it can be concluded that H0 is rejected. This is known from the results of the sig value of 0.000 being less than 0.05, thus it can be said that there has been a good improvement in the students' character between before the model was given and after the learning model was given.

CONCLUSION

Based on tables 2 and 3, it is known that offline learning is more effective than online learning. This can be seen from the results of the questionnaire which states that 87% of online

learning is less effective than offline learning. This is also caused by the online learning media used being less attractive, namely 50.5% of respondents said it was like that and 49.5% said it was interesting. Another obstacle that students face when learning online is giving a lot of assignments. 90.5% of students stated that the assignments given during online learning exceeded the assignments during offline learning, making it burdensome for students. The delivery of material by lecturers during learning is also less than optimal. This can be seen from the percentage of students who stated this was quite high, namely 46.5%.

Many obstacles were also caused by the lack of feedback given by teachers when learning took place online, namely 50.5% of respondents stated that there was not enough feedback given. The duration of time given is also an obstacle that greatly influences the success of online learning. Considering the long time spent online, it causes a lack of internet quota. Another obstacle is the internet network which does not support the implementation of online learning. 42.5% of respondents stated that an unstable internet network meant that learning could not be carried out optimally. Of all the obstacles faced by students in carrying out online learning, the highest obstacle faced by students, namely 90.5%, is giving a lot of assignments and exceeding the tasks given when offline learning is carried out.

Social Sciences students' critical thinking skills. Based on table 4 data, it was found that the post-test critical thinking skills results for the experimental class had a sig value of 0.085 > 0.05. So it can be concluded that the data obtained has a normal distribution, while the pre-test score for the experimental class has a sig value of 0.080 > 0.05, which can be concluded that the data obtained has a normal distribution. Based on the T Test results, data was obtained that H0 was rejected. This is known from the results of the sig value of 0.000 being less than 0.05, thus it can be said that there has been a good increase in the value of students' critical thinking abilities between before being given the model and after being given the BETA learning model. Based on the results presented in the conclusion, it is confirmed that the BETA learning model is effective in improving social studies students' critical thinking skills.

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