The Effect of the Application of Brainstorming Learning Techniques on Student Learning Outcomes in History Subjects in Grade XI Social Studies Students

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Abstract

In teaching and learning, teachers must have a strategy so students can learn effectively and efficiently, which is expected to hit the goal. One step to having a plan is to master the techniques of presentation; students are expected to participate in the learning process of history by boldly conveying ideas in history to create active learning. Learning techniques such as brainstorming can be applied to realize the historical quality of learning outcomes. The approach used in this thesis research is quantitative, and the design is a quasi-experimental pretest and post-test control group design. The study population was students in a social science class, with 83 students divided into four classes. The research sample used one social science class as the control group and another as the experimental group. Data from the pre-test was used to test the equality of two variances before the treated group, followed by learning and ending with the post-test. This methodological approach allows for a rigorous comparison between the control and experimental groups, providing insights into the effectiveness of the implemented teaching strategies. By analyzing the differences in learning outcomes between the two groups, the study aims to determine the impact of active learning techniques, such as brainstorming, on students' engagement and understanding of historical concepts. The findings of this research are expected to contribute to developing more effective history teaching methods, ultimately enhancing the educational experience for students and fostering a deeper appreciation for the subject.

Keywords: Effects, Application Of Learning Brainstorming Techniques, Learning Outcomes.

Introduction

Education is a conscious effort carried out by families, communities, and the government through teaching, guidance, and training activities both at and outside school. It aims to provide students with life skills to play their role in life in the present and the future. Education has the task of producing the next generation of the nation who are capable, independent, and have a good personality so that in the future, they will be able to bring the Indonesian nation a better life (Agus, 2013; Susriyati, 2014; Karima et al., 2017). The purpose of national education can be seen from Law Number 20 of 2003 concerning the National Education System Article 1 Paragraph 1 explains that education is a conscious and planned effort to create a learning atmosphere and learning process so that students actively develop their potential to have religious, spiritual strength, self-control, personality, intelligence, noble character, and other

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skills needed by themselves. Society, nation, and state (Munib, 2010, p. 33; Hamdi, 2016; Sutrisna, 2017). Thus, national education goals require students to be active in the learning process.

Education in Indonesia is expected not only to produce the next generation Intelligent and able to compete with people from other countries but also expected to produce the next generation who are moral, personality and know the history of their nation. Getting to know the history of Indonesia is very important for the younger generation to cultivate a sense of nationalism and patriotism, which has recently begun to fade, and the formation of the nation's character (Bagus, 2011; Thong et al., 2011; Akhmad, 2015). Education in Indonesia today seems to be starting to ignore the importance of studying Indonesian history (Marwoto, 2011). As a result, many young generations need to learn their nation's history (Yudiono, 2010; Kurniawati, 2015; Peter, 2016).

One of the genuine efforts to introduce and learn the history of the Indonesian nation is through history education and learning. History teaching in schools starts in elementary school (elementary school), junior high school (first-level advanced school), and high school (final advanced school). Through history learning, students can develop the competence to think chronologically and have knowledge of the past that can be used to understand and explain the process of development and change of society as well as socio-cultural diversity to find and grow the nation's identity amid the life of the world community (Yeni, 2017). History teaching also aims to make students aware of the diversity of life experiences in each society and the existence of different perspectives on the past to understand the present and build knowledge and understanding to face the future (Isjoni, 2007, p. 72).

History has a vital role in shaping the identity and personality of the nation (Edi, 2012). A society or nation must know history to figure out who they are and how they became today. The history and identity of the country have a mutual relationship. Deep and long roots will strengthen a nation's existence, identity, and personality. The nation will be proud of loving its history and culture (Daliman, 2012, p. 20). The form of history learning needs to be developed to foster awareness in students about the existence of their nation, which has experienced the bitterness of struggle (Bartholomeus, 2013; Efri, 2015). For this reason, students are no longer faced with one-way learning (teacher-centered) and memorization, but students are involved in education (student-centered) and faced with historical problems. Student involvement in learning is expected to raise historical awareness as a goal of history learning can be achieved (Isjoni, 2007, p. 128).

In the teaching and learning process, teachers must have a strategy so students can learn effectively and efficiently by the expected goals. One of the steps to have a plan is to master presentation techniques, usually called teaching methods (Roestiyah, 2012, p. 1). According to (Oemar, 2011, p. 127), the general objectives must be formulated into more specific and operational behavioral goals. A technique that can be done is brainstorming, which involves actively involving a group creatively and critically, with the leader of the teacher or lesson designer as a curriculum developer (Dwi et al., 2017).

Method

The approach used in this thesis research is quantitative, with a Quasi-Experimental design of pre-test and post-test control group design (Sugiyono, 2010, p. 114). The population of this study is class XI social studies students, with a total of 83 students divided into four classes. The research sample used a random sampling cluster of IPS class 3 as the control group and class XI IPS 2 as the experimental group. Meanwhile, the data collection techniques are documentation, tests, and observation. In this study, two types of tests were used, namely pre-test and post-test. The pre-test is used to determine whether or not there is a difference in the initial condition between the experimental and control groups. Meanwhile, the post-test was conducted to measure the difference and increase in the bound variable between the control and experimental classes. The data analysis techniques used in this study are instrumental data analysis and research data analysis. Instrument data analysis includes validity test, reliability test, level of difficulty, and differentiation. Meanwhile, the analysis of research data is divided into three stages, namely population data analysis, which includes the normality test, homogeneity test, and two-mean similarity test; initial stage analysis, which includes normality test, homogeneity test, difference test of two averages, and the final stage which provides for normality test, homogeneity test, signification test (t-test).

Results and Discussion

History subjects are the study of science that explains events in the past accompanied by clear facts. The history learning at SMA Negeri 1 Karangreja still tends to be less varied because it still uses a lot of conventional methods, namely the lecture method, so teachers have not been able to bring students closer to their learning experience, and students are still lacking in terms of critical thinking, creativity, and constructing their knowledge. The role of teachers in the classroom is still very dominant, and student involvement in the learning process is minimal, so learning is still one-way. This has an impact on students' unsatisfactory history learning

outcomes. In this study, the population used was class XI IPS SMA Negeri 1 Karangreja, Purbalingga Regency. After the population data was tested for normality and homogeneity, results showed that the population had the same or homogeneous conditions so that the population could be used as a research object.

This study is an experimental research divided into two groups, namely the control and experimental groups. This research was carried out during February and March 2015 at SMAN 1 Karangreja in grade XI social studies students. This study uses the cluster random sampling technique, where two classes are randomly selected by drawing from the population. The sample will be tested for normality and homogeneity based on preliminary data obtained from the pre-test scores of the IPS 2 and IPS 3 classes. The homogeneous data showed more significance than 0.05 (0.405 > 0.05) based on the homogeneity test results. Homogeneous data or populations are believed to depart from the same initial state. The population is thus homogeneous, and the variants of the two groups are also close to the same so that samples can be taken randomly, assuming that the two classes must be homogeneous and have a similar variance or the entire population has a possible variance to be taken as a sample. The determination of the experimental class and the control class of the researcher first carried out randomization. Random results were obtained in class XI IPS 2 as an experimental class and IPS class 3 as a control class.

In this study, the design applied is a Quasi-Experimental pattern experimental design with the type of Pre-test and Post-test Control Group Design. Quasi-experimental is the development of accurate experimental methods that are difficult to implement. This design has a control group, but it cannot fully control the external variables that affect the execution of the experiment. However, this design is better than that of a pre-experimental design. Quasi-Experimental is used because it is difficult to determine the control group used for research (Sugiyono, 2010, p. 114). Based on initial observations, the preparation for learning history subjects in grade XI students of Social Sciences High School N 1 Karangreja, Purbalingga Regency, could have been better. This can be seen from the score in the pre-test, where for the experimental group, namely the class taught using the Brainstorming learning technique, 43.33 for the lowest score and 73.33 for the highest score. In contrast, the control group, the class that used lectures, reached 43.33 for the lowest and highest scores of 70.00.

The final assessment of student learning outcomes in the experimental and control groups was obtained from the multiple-choice written test scores after the end of the learning activity (post-test). The experimental group used the Brainstorming learning technique, and the control group used a lecture model. Based on the description and analysis of student learning outcome data

above, information was obtained for the experimental group, and the average score for the post-test was 84.67. The control group was given a lecture learning model with an average score of 63.65 learning outcomes. Based on the results of the similarity test of the two averages of the experimental and control groups for the pre-test data, the count value = 0.096 < t the table = 1.6905, which means that the overall level of intelligence between the experimental group and the control group is the same or there is no difference in the average pre-test score. Without the same initial conditions, in this case, the intelligence of the students who are the research samples, the measurement of the effectiveness of a learning technique cannot be carried out because the results of the study prove that the average learning outcomes of students before the research is the same, then the research can be carried out.

From the results of the similarity test of the two average post-test data of the experimental group and the control group using the t-test, the t-count value = 7.805 table.= 1.6905. Because the count> tables, thus the average learning outcomes of students in the experimental group who used the Brainstorming learning technique in grade XI students of Social Sciences High School Negeri 1 Karangreja Purbalingga Regency and the learning outcomes of students in the control group who were subjected to conventional learning were significantly different. Because the average score of the experimental group is higher than the average score of the control group, it can be said that the average learning outcome of the experimental group subjected to the Brainstorming learning technique is better than the learning outcome of the control group students who are subjected to conventional learning.

Brainstorming learning techniques can be applied to historical materials related to Analyzing the Process of Indonesia-Japan Interaction and the Impact of the Japanese Military Occupation on the Life of People in Indonesia, various elements in a setting, and problems. This learning technique has better abilities because it can give students multiple views and thoughts, and student proposals are accommodated and evaluated to obtain the best, creative, and innovative answers. Thus, students become active and motivated in the teaching and learning process. This is the opinion of Yamin (2007, p. 8); good learning is if, in the classroom, the teacher explains that students ask questions and listen; on the contrary, the teacher gets information from his students and answers students' questions and finds solutions together, both parties (communicators, communicators) are active. The more dominant role lies in the student or students who are more active.

Most history learning in schools is still dominated by a paradigm that states that knowledge is a set of facts that must be memorized. In addition, the classroom situation is still primarily focused on teachers as the primary source of knowledge and lecture methods as the leading

choice of teaching and learning strategies. Including the Brainstorming learning technique as a learning strategy provides an opportunity to test more deeply, especially students' ability to think independently. Through wise questions, students who are tested can practice thinking for themselves and not rely on temporary loan arguments; it is expected to benefit history learning by boldly conveying ideas in history learning to create active learning. Good learning results make it easy for students to be proud of their parents and themselves. Hopefully, this research will inspire history teachers to use the brainstorming learning technique in the classroom learning process; this is certainly done to improve student learning outcomes and achieve learning goals. Although each presentation technique has its characteristics that are different from the others, we need to have a pattern or standard to learn a method and be able to complement each other.

Conclusion

The following conclusions were obtained based on the research results and discussion: (1) History learning using the Brainstorming learning technique can improve student learning outcomes. This is evidenced by the results of the calculation of the average difference test of the class exceeding the KKM or >71; namely, the experimental class obtained an average score of 84.67 > 71. The calculation results of the average difference test of the learning outcomes of the control class had an average of < 71. So classically, if the learning outcomes of students in the classroom who apply the Brainstorming learning technique have reached KKM, then learning can be effective. (2) The completeness of the learning outcomes was obtained with an average score of 84.67 for the experimental class, while the average score for the control class was 63.65. (3) There is an influence between the application of Brainstorming learning techniques with conventional learning on the learning outcomes of students in class XI of SMA Negeri 1 Karangreja Purbalingga; judging from the results of the calculation of 7.805, it is greater than the table of 1.6905. Based on the results of the research obtained, there are several suggestions as follows: (1) Teachers should be able to be innovative in choosing learning models, methods, and techniques that are suitable for students and subject matter so that the history learning process is more exciting and successfully achieves its learning goals, (2) The school should pay more attention to and complete the learning facilities and infrastructure that support the learning process at SMA Negeri 1 Karangreja, Purbalinga Regency, (3) It is hoped that teachers can develop the learning process using learning techniques.

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