

## Application of the Demonstration Learning Model to Improve Student Learning Outcomes on Basic Competencies in Drawing Letters, Numbers and Etiquette in Technical Drawing at SMK Negeri 1 Hiliserangkai for the 2022/2023 Academic Year

Arman Jaya Gulo<sup>1</sup> Adrianus Zega<sup>2</sup> Yelisman Zebua<sup>3</sup>

Building Engineering Education Study Program, Faculty of Teacher Training and Education,  
Universitas Nias, Gunungsitoli City, North Sumatera Province, Indonesia<sup>1,2,3</sup>

Email: [armanjayagulo0@gmail.com](mailto:armanjayagulo0@gmail.com)<sup>1</sup>

### Abstark

The problem in this study is that the implementation of the Demonstration learning model has not been implemented optimally so that student learning outcomes in the basic competencies of Drawing Letters, Numbers and Etiquette are only limited to meeting the KKM standard that has been set, namely 70. The purpose of this study: (1) To describe the implementation of the learning process by apply the Demonstration learning model. (2) To find out the increase in student learning outcomes in the basic competencies of Drawing Letters, Numbers and Etiquette in technical drawings at SMK Negeri 1 Hiliserangkai. This type of research is Classroom Action Research (CAR). This research was conducted at SMK Negeri 1 Hiliserangkai with the research subjects being students of class X-BKP Semester I for the 2022/2023 academic year with a total of 18 students. The research instrument (1) Observation Sheet, consisting of (a) Observation sheet observing the learning process for teachers (b) Observation sheet observing students in the learning process. (2) Student Learning Outcomes Test and (3) Photo documentation. Research Results: (1) In Cycle I (first) the average learning process (teacher respondents) was 67.04%, and the average percentage of observations of students' activeness in the learning process was 47.40% had not reached the target set, the average -the average student learning outcomes is 67.89% belonging to the sufficient category, the percentage of student learning completeness is 66.67%. (2) In Cycle II (two) the average learning process (teacher respondents) is 92.04% and the average percentage of observations of student activity in the learning process is 81.77% has reached the set target, the average learning outcomes students namely 89.22% belonging to the good category, the percentage of completeness of students namely 100% has reached the set target of 70%. From the results of the research findings above, it can be concluded that by applying the Demonstration learning model to the Basic Competence of Drawing Letters, Numbers and Etiquette in Technical Drawings, it can improve student learning outcomes for class X-BKP SMK Negeri 1 Hiliserangkai for the 2022/2023 Academic Year.

**Keywords:** Demonstration Learning Model, Student Learning Outcomes



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### INTRODUCTION

Basically education is one of the means in national development to improve human resources. Through education, humans are directed to develop the potential that already exists in them so that they can realize it in the form of abilities, skills, attitudes, behaviors and personalities that are in accordance with national education. Education is expected to improve the ability, life and dignity of Indonesian people who are educated and have faith, have noble character, knowledge, skills, personality, be responsible, participatory, innovative and creative, in order to answer the challenges of the development of the times. Given that education is very important for human life, education must be carried out as well as possible so as to obtain the expected results.

To educate the nation's life, improving the quality of education is very important for sustainable development in all aspects of human life. The national education system must always be developed in accordance with the needs and developments that occur at the local, national and global levels. Improving learning outcomes is never separated from the mental development of students, the mental development of students at school includes the ability to work abstractly towards conceptually. In this case, teachers are required to realize and create situations that allow students to be active and creative in teaching and learning activities. In this system students are expected to be able to optimally carry out learning activities so that predetermined instructional goals can be achieved optimally.

According to Abd Aziz Hsb (2018: 2) "Education is a lifelong process and the realization of self-formation as a whole in the development of all potential in the framework of fulfilling all human commitments as individuals, social beings and as God's creatures". Learning will run smoothly if the elements in the learning process can be done correctly, correctly, and smoothly. The elements of learning include, the learning objectives to be achieved, subject matter, teachers, students, learning facilities and infrastructure, learning resources and learning models used and learning evaluation. So that the learning process in schools can create conducive and effective learning activities as well as high learning interest of students who are active and skilled in the process of learning activities, both in terms of psychomotor and in the skills of each student which is a solution in solving problems in everyday life .

Technical drawing is a vocational subject consisting of several subject areas of expertise taught in Vocational High Schools (SMK), especially in the subject of Drawing Letters, Numbers and Etiquette which provides insight to students in learning how to plan and design Letters, Numbers and Etiquette on technical drawings that are good and correct. This of course requires expertise, skills and knowledge as well as interest and motivation from students to carry out and master it. But in reality there are still many students who have not been able to achieve the expected learning outcomes. Among students they think that Drawing Letters, Numbers and Etiquette is very difficult to learn so many students ignore it, are not interested in mastering this ability. Based on the results of preliminary observations conducted by researchers at SMK Negeri 1 Hiliserangkai it was found that the teaching methods of teachers mostly used non-variable lecture methods, lack of teacher motivation towards students in teaching and learning activities, students were not invited to find a problem found in learning material, during exams as well as daily tests there are still students who work together and copy the work of fellow students, lack of facilities and infrastructure such as student handbooks, teaching aids so that students do not have material to study at school or at home. Therefore, a teacher's expertise in classroom management is needed which must be possessed and applied as educators in carrying out learning activities.

The results of interviews conducted at SMK Negeri 1 Hiliserangkai found that the implementation of learning activities carried out by teachers for students still had many factors that became a problem, this was due to the inactive process of learning activities in schools due to Covid-19 (often closed by the central government and local government), lack of interest and activeness of students in learning activities, especially drawing, lack of creativity of students in solving practice questions, application of the Demonstration Learning Model at SMK Negeri 1 Hiliserangkai has never been implemented, average student learning outcomes on Basic Competency of Drawing Letters , Numbers, and Etiquette on Technical Drawings are still relatively low, only limited to the Minimum Completeness Criteria (KKM) standard determined by the school, which is 70.

If this is allowed to continue, students will not be able to master Drawing Letters, Numbers and Etiquette. Students will also be increasingly lazy to follow the learning process

in class. For this reason, teachers must be creative in finding solutions to the problems above, for example by using learning strategies that use demonstrations shown to students so that all students more easily understand and practice what has been obtained and obtained when successfully overcoming a problem, to develop good drawing skills. has. One learning strategy that can invite students to be more active, creative and critical in the learning process is the application of the Demonstration learning model.

Aris Shoimin (2014; 62) states that "The Demonstration learning model is a teaching model that demonstrates items, events, rules, and sequences of carrying out an activity, both directly and through teaching media that are relevant to the subject matter or material being presented." Based on the expert's statement above, the Demonstration learning model encourages the involvement of students intellectually and emotionally and is active in the teaching and learning process in the classroom guided by the teacher. Students are asked to find/view the concept that is being studied through interpretation in various ways such as exercises, discussions. This model provides opportunities for students to demonstrate, analyze, and practice. The aims of this study were: To describe the implementation of the learning process by applying the Demonstration learning model and to find out the increase in student learning outcomes in the basic competencies of Drawing Letters, Numbers and Etiquette in Technical Drawings at SMK Negeri 1 Hiliserangkai.

## **RESEARCH METHODS**

In this research is Classroom Action Research (CAR). According to Djajadi Muhammad (2019: 1) defines "Classroom Action Research is a form of self-reflective research conducted by participants in social (including educational) situations to improve their own practice. Therefore, the object of action in this study is: Application of the Demonstration Learning Model in the learning process for class X students of SMK Negeri 1 Hiliserangkai. Student learning outcomes in the Basic Competency of Drawing Letters, Numbers and Etiquette at SMK Negeri 1 Hiliserangkai for the 2022/2023 Academic Year, through the Application of the Demonstration Learning Model. The location of this research was carried out at SMK Negeri 1 Hiliserangkai which is located in Awela Village, Hiliserangkai District, Nias Regency. The subjects of this study were 18 students of SMK Negeri 1 Hiliserangkai X-BKP Odd Semester in the 2022/2023 academic year. In accordance with the researcher's plan, this research was carried out in the odd semester of the 2022/2023 school year. In accordance with the research implementation plan to be precise from November to December 2022. For the implementation of this research the schedule was adjusted to the schedule set by the school so that teaching and learning activities run as scheduled and learning materials can also be achieved. The implementation of this action was carried out for approximately two months. The implementation of the action is planned in 2 cycles, each cycle is planned for 2 meetings and 1 time for giving a learning achievement test which is carried out at the end of each cycle. The time allocation for each meeting is 2 x 45 minutes.

## **Research Instruments**

To collect data in this study, research instruments were used, as follows:

1. Observation. Observation sheets are used to observe the learning process in class. As for the observation sheet that the researcher used as an instrument, namely: Observation of the learning process for teachers. This observation was used to find out about the teacher's activities in implementing the learning process. Observation of students in the learning process. This observation is used to determine the activity of students in learning activities.
2. Learning Outcomes Test. Study tests are arranged based on the test grid used to determine the increase in student learning outcomes at the end of each cycle.

3. Interview. Interviews are used to find out what students think about learning carried out by researchers by applying the Demonstration learning model.
4. Documentation. Documentation is an instrument that is used as evidence that the learning process has been implemented using the Demonstration learning model. The documentation in this study is photos, student activity sheets, teacher respondent sheets, interview sheets and learning achievement tests.

### **Research Design**

As for the actions or stages in implementing Classroom Action Research (PTK), as follows: Planning (Planning), Preparing lesson plans (RPP), Preparing teaching materials or materials, Preparing observation sheets, Interview guide sheets, Student Worksheets, Preparing activity tests practice, documentation/photos. Action (Action). At the action stage (Action), researchers carry out the learning process by applying the Demonstration learning model in accordance with planning (planning). Observation Stage During the learning process, observers make observations in accordance with the observation sheets that have been prepared previously, namely in the form of observation sheets for teacher respondents (researchers), observation sheets for student activity in the learning process, and interview guide sheets for student respondents. Reflection (Reflection), After the implementation of the actions in each cycle is completed, the observers and researchers jointly evaluate the process and results to see the weaknesses and successes in the implementation of each cycle in accordance with the data obtained.

### **Research Implementation Procedures**

This research was carried out in 2 (two) cycles. The first cycle uses the Demonstration learning model. The second cycle was carried out based on the reflection of the first cycle. Implementation of the first cycle and the second cycle will be described as follows:

1. Cycle I (First). The first cycle consisted of two meetings and one meeting was added to test the learning outcomes. Each meeting is conducted using the Demonstration learning model. Where the learning steps are listed in the lesson plan (attached). During the first cycle, the subject teacher as an observer fills in the student activity observation sheet according to the learning steps taken while the researcher acts as a teacher. At the last meeting of cycle I, a learning achievement test was carried out. From these tests obtained data about learning outcomes. If the target has been completed, the action research activity is complete, but if it is still not finished, the weaknesses and deficiencies in the implementation of learning with the Demonstration learning model are stated to be perfected in the second cycle.
2. Cycle II (Two). By evaluating the results of the implementation of the first cycle, if it turns out that the maximum results have not been achieved as previously expected, then proceed to the next cycle without ignoring the steps in the previous cycle that were taken in the first cycle by carrying out two meetings and giving one test. learning outcomes.

### **RESEARCH RESULTS AND DISCUSSION**

This research was conducted at SMK Negeri 1 Hiliserangkai. This school is located in Awela Village, Hiliserangkai District, Nias Regency. Before carrying out the research, the researcher first communicated to the Principal of SMK Negeri 1 Hiliserangkai to be given permission to be able to carry out the research, then collaborated with the Engineering Drawing subject teacher in conducting the research. Classroom Action Research was conducted in class X-BKP with a total of 18 students. The results of classroom action research conducted by applying the Demonstration learning model show an increase in student

learning outcomes and the learning process is improved and becomes student-centered learning. In carrying out this research, the Engineering Drawing subject teacher acted as an observer who helped researchers carry out observations during the research. This research was carried out by applying the Demonstration learning model according to the Technical Drawing subject hours so that it does not interfere with the implementation of other learning. The implementation of this research includes four stages, namely: planning, action, observation or reflection. Discussion of research results is intended to discuss research findings as stated in the previous section. The discussion of the findings of this study is based on the research objectives, literature review, previous findings, and research limitations. In order to be more direct, the order of the discussion is to reveal the main research problems again, giving general answers to the main problems, analysis of data interpretation of findings, comparison of findings with theory, and limitations of analysis and interpretation of findings.

### **Main Issues**

As stated earlier, the main problem in this research is that student learning outcomes do not meet KKM 70 due to several factors: The Demonstration learning model has not been optimally applied to the Procedure for Drawing Letters, Numbers and Etiquette in Technical Drawings. Low student learning outcomes in basic competence applying Procedures for Using Engineering Drawing Equipment are only limited to the Minimum Completeness Criteria (KKM) standard, namely 70. From these problems, researchers conducted a study to improve the learning process by applying the Demonstration learning model in the learning process. The formulation of the problem is: "Can applying the Demonstration learning model improve student learning outcomes in the basic competencies of Drawing Letters, Numbers and Etiquette in Technical Drawings at SMK Negeri 1 Hiliserangkai?"

### **General Answers to Main Research Problems**

The Demonstration learning model is a teaching model by demonstrating events, rules, and sequences of carrying out an activity, either directly or through the use of teaching media relevant to the subject being presented. The Demonstration learning model relies on a way of teaching in which an instructor/teacher demonstrates, shows a process such as drawing letters, so that all students in the class can see, observe, hear, maybe touch and feel the process demonstrated by the teacher. To find out the improvement of the learning process and the improvement of student learning outcomes, the researchers carried out research by applying the Demonstration learning model, where during the learning process took place observations were made by observers to find out how the learning process was taking place. After the learning activities are completed, practical activity tests are given to students to find out student learning outcomes. The results of the practical test activities are processed so that it can be seen the increase in student learning outcomes by applying the Demonstration learning model. Based on the practical activity tests given to students it turned out that the average student learning outcomes in cycle 1 was 67.89. while the presentation of learning completeness is 66.66%. and still have not reached the target or KKM set, namely 70, because the Demonstration learning model has not been optimally implemented and the learning carried out by researchers still has many weaknesses. However, after being corrected by researchers in cycle 2 it turned out that the average student learning outcomes in cycle 2 increased by 89.22%. while the percentage of learning completeness is 100%. and the learning process meets the expected requirements or the specified KKM, so that the general answer to the main problem is: "Can applying the Demonstration learning model improve student learning outcomes in the basic competencies of Drawing Letters, Numbers and Etiquette in Technical Drawings at SMK Negeri 1 Hiliserangkai?"

### **Analysis and Interpretation of Research Findings**

This section reviews the analysis and interpretation of research findings. Based on the observation sheet of the teacher respondent's learning process in cycle 1 it is known that the percentage of observations of the implementation of the learning process of teacher respondents by applying the Demonstration learning model at meeting 1 was 65.91% and students' activeness in learning activities was 46.88%. Still not reaching the target/KKM that has been set, namely 70. This is caused by several factors, namely: Researchers are not familiar with applying the Demonstration learning model. students are still not familiar with the learning conditions by using the Demonstration learning model. Students are less interested in learning and even noisy because they are not used to learning conditions. Most students are not active in following the learning process.

In cycle I meeting 2 based on the results of the percentage of observations in the learning process of Teacher Respondents obtained 68.18%. This shows a slight increase but still has not reached the expected target. The percentage of student activity in the learning process also reached 47.92%. Based on student learning outcomes in cycle I, it is known that the average student learning outcomes is 67.89% in the sufficient category, and the percentage of completeness of student learning outcomes is 66.66%, it turns out that the results still have not fully reached the expected target, especially in terms of increasing learning outcomes and improving student activity. Therefore, researchers feel the need to continue research in cycle II.

To overcome some of the weaknesses in this first meeting, several improvements were made in the second meeting, including: Prepare yourself better, especially in terms of applying the Demonstration learning model, demonstrating techniques, class mastery, asking questions and evaluating the learning process. Observing weaknesses in the learning process and improving it at the next meeting. Give more attention to students who are less actively involved in the learning process. Keep motivating students to be more active in the learning process. Striving for a more conducive and enjoyable classroom environment. In cycle II, the average percentage of observations on the learning process of teacher respondents at meeting 1 and meeting 2, namely 92.04%, was included in the good category. Likewise, the average percentage of student activity in the learning process of meetings 1 and 2 obtained an average observation of 81.77%, including the good category. The average student learning outcomes in cycle II reached 89.22% belonging to the good category and the percentage of student learning completeness reached 100%. Based on student learning outcomes in cycle II, it turned out that the results had reached the expected target and met the KKM standard, namely 70. Therefore, the researchers concluded that: The learning process by applying the Demonstration learning model can improve student learning outcomes. The average student learning outcomes by applying the Demonstration learning model can increase.

### **Comparison of Findings with Theory**

During the implementation of this research, the findings were obtained, namely: the Demonstration learning process will increase student activity and student learning outcomes can increase if applying the Demonstration learning model to the basic competencies of Drawing Letters, Numbers and Etiquette in Technical Drawings optimally according to the model steps. As described in Chapter II that the basic theory that forms the basis of the implementation of this research is the Demonstration learning model. The Demonstration learning model is a model that teaches by demonstrating, events, rules and sequences of carrying out an activity, either directly or through the use of teaching media relevant to the subject being presented. In this case the teacher conveys the competence to be achieved, conveys the material as an introduction. Based on the description above, the researcher

compared the findings with theory, namely the implementation of the Demonstration learning process can improve student learning outcomes if it is applied and carried out scrutiny and improvement in carrying out the learning process in each meeting in the cycle and is reflected to find out weaknesses and successes in the learning process.

### **Implications of Research Results**

The implication of this research is through the application of the Demonstration learning model which has advantages compared to other learning models where this Demonstration learning model can attract students' attention to be focused, avoid students' mistakes in memory, through the application of this learning model verbalism can be avoided, by way of students can observe directly and can practice the learning provided by the teacher, so that students have the opportunity to compare theory with reality. Therefore, it can make students interested in participating in the learning process by participating actively in practice, so that students gain experience in practical activities to develop skills and obtain good learning outcomes. Through this classroom action research it is hoped that teachers can improve the learning process and can improve the quality and relevance of education.

### **Limitations of Results Analysis and Interpretation of Findings**

The validity of the findings of this study is essentially not absolute, this is due to a number of limitations. For this reason, it is necessary to disclose the limitations of this study, especially in the aspect of analysis and interpretation of the research findings. Based on this, the following will reveal the limitations of the research so that readers have the same views as the researcher. Some of the limitations encountered are: The learning process using the Demonstration learning model in this study still has various weaknesses. If there are other learning models that are used it is likely to get different results. Learning through the Demonstration learning model aims to increase student activity in the learning process optimally, the possibility of its application is still not optimal and weaknesses need to be corrected, especially regarding student activity during the learning process. The subject of this study was limited to class X-BKP students at SMK Negeri 1 Hiliserangkai. The object is to increase learning outcomes in the subject of Engineering Drawings in the basic competencies of applying Drawing Letters, Numbers and Etiquette in Technical Drawings through the Demonstration learning model. The research was carried out in the odd semester of the 2022/2023 school year. Manpower, time and supporting reference books are limited when conducting research.

### **CONCLUSION**

Based on the results of the research that has been carried out regarding the application of the Demonstration learning model in the learning process with the Basic Competency of Drawing Letters, Numbers and Etiquette in Technical Drawings in Class X-BKP, SMK Negeri 1 Hiliserangkai it can be concluded as follows: Results of observations of the learning process of teacher respondents in cycle I reached an average of 67.04%, while in cycle II it increased to an average of 92.04%. The results of observations of students who were active in the learning process in the first cycle reached an average of 47.40%, while in the second cycle it increased to an average of 81.77%. The results of observations of students who were not active in the learning process in the first cycle reached an average of 52.60%, while in the second cycle it decreased to an average of 18.23%. So that the average student learning outcomes are classified as good because of the application of the Demonstration learning model in cycle I the average student learning outcomes are 67.89% and the percentage of completeness is 66.67%, while in cycle II the average student learning outcomes reach 89, 22% in the good

category and the percentage of completeness of student learning outcomes is 100% and achieves the goals set.

Based on the findings and results of research, discussion and conclusions in this study, some suggestions from researchers are as follows: It is expected that the use of the Demonstration learning model in learning can improve student learning outcomes, especially in the Basic Competence of Drawing Letters, Numbers and Etiquette in Technical Drawings. In the learning process the teacher should be able to improve students' skills in the learning process of Engineering Drawings by using the Demonstration learning model in accordance with the material discussed. The teacher should continuously improve the weaknesses that may occur in the learning process.

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