Application of Direct Instruction Learning Model to Improve Student Learning Outcomes on Basic Competencies Implementing Wood Construction Work Procedures at SMK Negeri 1 Lotu for the 2022/2023 Academic Year

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Abstract
The problem in this study is that the Direct Instruction learning model has not been optimally applied to the Basic Competency of Implementing Wood Construction Work Procedures and student learning outcomes are limited to achieving KKM, namely 70. Research objectives: (1) To describe the learning process by applying the Direct Instruction learning model to Basic Competency Implementing Wood Construction Work Procedures at Lotu 1 State Vocational High School for the 2022/2023 Academic Year, and (2) To find out student learning outcomes in the Basic Competency of Applying Wood Construction Work Procedures at Lotu 1 State Vocational School for the 2022/2023 Academic Year. This type of research is Classroom Action Research (CAR). This research was conducted at SMK Negeri 1 Lotu with research subjects of class X-DPIB students, totaling 22 students. The instruments in this study were observation sheets of the learning process (teacher respondents), observation sheets of student activity, photo documentation, and practical activity tests. With the data analysis technique, namely the observation sheet is processed with a Likert scale and the learning achievement test is carried out by a practical activity test. The results of the study: (1) In the first cycle, the average percentage of observations in the learning process (teacher respondents) was 73.21%, the average percentage of observations of student activity was 48.44%, the average calculated learning outcomes was 66.57 with a percentage of student completeness of 45% and this result has not reached the target that has been set, namely 70. (2) While in cycle II (two) the average percentage of observations in the learning process (teacher respondents) is 85.71%, the average percentage observation of student activity is 83.10%, the average student learning outcomes is 83.10 which is categorized as good with a complete percentage of student learning outcomes of 100% and has reached the set target of 70. From the research findings above it can be concluded that by applying the Direct Instruction learning model in the Basics of Building Construction and Soil Measurement Techniques Basic Competency of Applying Wood Construction Work Procedures can improve student learning outcomes at SMK Negeri 1 Lotu.
Keywords: Direct Instruction Learning, Learning Outcomes

INTRODUCTION

In principle, education is a very important factor in the intellectual life of the nation. The successful development of a nation is closely related to education. Therefore, the government always makes every effort to improve the quality of education. Through education it is hoped that the goal of national development is to create quality human resources. It can be realized which is supported by various elements of society, schools and government. Efforts to develop education need good cooperation between teachers in schools, parents, the community and the government and are not only given the responsibility of the school. The development of education always realizes the ideals of the nation in creating a just and prosperous society. To realize the nation's ideals of creating a just and prosperous society is to improve the quality of

education with teaching staff (educators), students, materials, learning strategies, facilities and the environment. Each of these components is interrelated with one another to achieve a goal.

Various efforts have been made to advance the quality of national education, both by developing curriculum, increasing teacher competence, procuring school facilities and infrastructure, and providing scholarships for outstanding students. All the activities in question are to improve Indonesia's human resources as a whole. One indication of quality improvement is an increase in student activity so that learning outcomes can increase, because learning outcomes are the main target in the development of the education sector. Improving learning outcomes is inseparable from the mental development of students, the mental development of students at school includes the ability to work abstractly towards conceptual achievement. The achievement of learning objectives is largely determined by the success of the learning process in class. one factor is the interaction of teachers and students in learning. Teachers have a very important role in teaching and educating students as a subject that is the target of education. Based on the results of observations made by researchers at SMK Negeri 1 Lotu, Lotu District, North Nias Regency, several things were found, namely: learning is still teacher-centered, learning resources are still very limited, the Direct Instruction learning model has never been applied to basic competencies applying work procedures wooden construction.

Based on the results of interviews with teachers, several problems were found, namely: There were several students whose memory and absorption capacity in understanding the material was still lacking, they were lazy to do assignments, lack of student creativity, lack of interest in student learning, students were embarrassed to ask even did not want to ask the teacher if there was things that are not understood, student learning outcomes are low in basic competence applying procedures for wood construction work only reaching the Minimum Completeness Criteria (KKM) standard, namely 70. Based on the results of interviews with students found several problems, namely: The teacher's explanation of the material sometimes cannot be followed and even sleepy when learning implements procedures for wood construction work because of the monotonous way of teaching the teacher, there are students who feel bored during the learning process.

From the description above, it is known that student learning outcomes are only limited to achieving the minimum completeness criterion (KKM) that has been determined by the school is 70. The lack of achievement of this student's final score is an indication that the learning process is still not effective, where students are not actively involved. in the learning process because of the teacher's habit of using conventional learning methods and not precisely choosing models, strategies and approaches that are appropriate in the teaching and learning process which, generally teachers only explain material in a monotonous, lazy and even boring way if this situation is allowed to have an impact on the quality of education and need to be addressed as soon as possible.

In order for the implementation of learning to be achieved in accordance with the learning objectives, a teacher must have readiness, creativity, in choosing models and media that can support the learning implementation process, one of which is by applying the Direct Instruction learning model which is a teaching model by demonstrating items that aim to improve mastery of the material. This learning model is suitable for application in SMK because using this learning model can improve students' memory and motivation of the material presented by the subject teacher. In this case the teacher conveys the competence to be achieved, conveys the material as an introduction. The Direct Instruction learning model relies on a teaching method in which an instructor or a team of teachers demonstrates, shows

a process, for example applying procedures for wood construction work, so that all students in the class can see, observe, hear, maybe touch and feel the process demonstrated by the teacher.

The reason the researcher chose the Direct Instruction learning model was because the use of the Direct Instruction learning model was able to communicate something to be conveyed by demonstrating it to students. Therefore, in designing the learning process one should choose a model that is truly effective and efficient or design one's own model so that it can convey learning messages, which eventually form certain competencies from students. The Direct Instruction learning model has the ability or potential to overcome teacher deficiencies, the Direct Instruction learning model is also able to convey material clearly and easily understood by students. Thus the use of the Direct Instruction learning model can channel messages that can stimulate thoughts, feelings, and wills. From this, the learning process will be effective and student achievement will increase.

The aims of this study were: To describe the learning process in the basic competencies of applying wood construction work procedures by applying the Direct Instruction learning model at SMK Negeri 1 Lotu in the 2022/2023 academic year. To improve student learning outcomes in the basic competencies of implementing wood construction work procedures at SMK Negeri 1 Lotu for the 2022/2023 academic year.

RESEARCH METHODS

This type of research is Classroom Action Research (CAR). This research was conducted with the aim of improving the learning process in order to achieve maximum learning objectives. Therefore, the object of this research action is: Application of the Direct Instruction Learning Model in the Productive learning process. Improving student learning outcomes in basic competencies applying wood construction work procedures using the Direct Instruction learning model. To collect data in this study, research instruments were used, as follows:

1. Observation. Observation is used to observe the learning process in class. As for the observation sheets used by researchers as instruments, namely: Observation of the learning process for teachers. This observation is used to find out about teacher 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. Photo documentation. This instrument is in the form of photos about the implementation of learning. Documentation is used to show a concrete picture of the implementation of the learning process.
3. Practical activity 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.

The location of this research was carried out at SMK Negeri 1 Lotu which is located in Hilidundra Village, Lotu District, North Nias Regency. In accordance with the plan, this action research was carried out in the odd semester of the 2022/2023 academic year, namely; in September to. October 2022. For the implementation of this research, the schedule is adjusted to the schedule set by the school so that teaching and learning activities run as scheduled and learning materials can be achieved. The subjects of this study were class X students of Odd Semester Program Design Modeling and Building Information Expertise (DPIB) SMK Negeri 1 Lotu for the 2022/2023 academic year with a total of 22 students.

Research Design

As for the actions or stages in the implementation of Classroom Action Research (PTK), as follows:

1. Planning (Planning); Each meeting prepares: Prepares a learning implementation plan (RPP) that is in accordance with the Direct Instruction learning model. Prepare an observation sheet. Interview guide sheet. Student worksheets. Prepare practice test activities. Photo documentation.
2. Action (Action). Implementing action, namely learning activities by applying the Direct Instruction learning model.
3. Observation Stage. The subject teacher as an observer pays attention to the suitability of the learning steps through the Direct Instruction learning model carried out by the researcher during the learning process by filling in the observation sheet (attached).
4. Reflection. Based on the results of interview observations and evaluation of student learning outcomes, reflection is carried out to see weaknesses and successes in the implementation of each cycle.

Research Implementation Procedures

This research was conducted in two cycles. The first cycle uses the Direct Instruction learning model. The second cycle is 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 2 meetings and 1 meeting for the learning outcomes test. Each meeting is conducted using the Direct Instruction learning model where the learning steps are listed in the lesson plan (attached). During cycle I, the subject teacher as an observer fills out a sheet containing observations in accordance with 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 Direct Instruction learning model are stated. Weaknesses in cycle I will be perfected in cycle II and if in cycle II there are no weaknesses in the implementation of the learning model then in cycle II another action is made that can support learning activities using the Direct Instruction learning model.
2. Cycle II (Two). By evaluating the results of the implementation of the first cycle, if it turns out that it has not achieved the maximum results as previously expected, then it will be continued in the next cycle without ignoring the steps in the previous cycle that were taken in the first cycle and added with other actions that are deemed capable. support learning success.

RESEARCH RESULTS AND DISCUSSION

This research was conducted at SMK Negeri 1 Lotu. This school is located in Hilidunda Village, Lotu District, North Nias Regency. Before carrying out the research, the researcher first communicated to the Principal of SMK Negeri 1 Lotu to be given permission to be able to carry out the research, then collaborated with the subject teachers of Fundamentals of Building Construction and Soil Measurement Techniques in conducting the research. This research was conducted in class X-DPIB with 22 students. The results of classroom action research conducted by applying the Direct Instruction learning model showed an increase in student learning outcomes and improved learning processes and became student-centered learning. In carrying out this research, the teacher in the Fundamentals of Building Construction and Land Surveying Techniques subjects acted as an observer who helped researchers carry out observations during the research. This research was carried out by applying the Direct Instruction learning model according to the subject hours of

Fundamentals of Building Construction and Soil Measurement Techniques so that it does not interfere with the implementation of other learning. The implementation of this research includes four stages: planning, action, observation and reflection.

Main Issues

As previously stated, the main problems in this study include: Learning is still teacher-centered. Learning resources are still very limited. The Direct Instruction learning model has not been optimally applied to competence. Basic Procedures for Implementing Wood Construction Work. Lack of interest in student learning. Students are embarrassed to ask and don't even want to ask the teacher if there are things they don't understand. Low student learning outcomes in the basic competence of applying wood construction work procedures are limited to achieving the Minimum Completeness Criteria (KKM) standard, namely 70. From these problems, researchers conducted research to improve the learning process by applying the Direct Instruction learning model in the learning process. The formulation of the problem is: "Can applying the Direct Instruction learning model improve student learning outcomes in the Basic Competency of Applying Procedures for Wood Construction at SMK Negeri 1 Lotu?

General Answers to Main Research Problems

The Direct Instruction learning model is a learning model specifically designed to support student learning processes related to declarative knowledge and well-structured procedural knowledge that can be taught in a step-by-step pattern of activities. The Direct Instruction learning model relies on a way of teaching where a teacher or a team of teachers shows, shows a process such as a wood joint, so that all students in the class can see, observe, hear maybe touch and feel the process shown by the teacher. Direct Instruction in relation to the presentation of information can be interpreted as an attempt to demonstrate a way of doing something. To find out the increase in student learning outcomes, researchers carried out research by applying the Direct Instruction 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 activity tests are processed so that it can be seen the increase in student learning outcomes by applying the Direct Instruction learning model. Based on the practical activity tests given to students it turned out that the average student learning outcomes in cycle 1 was 66.57 while the learning completeness presentation was 45% and they still had not reached the set target of 70, because they had never experienced this form of learning before and learning conducted by researchers still has many weaknesses. However, after improvements were made by researchers in cycle II, it turned out that the average student learning outcomes in cycle 2 increased, namely 83.10, while the percentage of learning completeness was 100% and the learning process met the expected requirements, so that the general answer to the main problem was "By applying the Direct Instruction learning model to the basic competencies of applying wood construction work procedures can improve student learning outcomes in Class X-DPIB SMK Negeri 1 Lotu"

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 I it is known that the percentage of observations of the implementation of the learning process of teacher

respondents by applying the Direct Instruction learning model at meeting 1 was 71.43% and students' activeness in learning activities was 58.24%. Still not reaching the target that has been set, namely 70. This is caused by several factors, namely: Researchers are not familiar with applying the Direct Instruction learning model. Students are still not familiar with learning conditions using the Direct Instruction learning model. Students pay less attention in learning and even make noise 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 75.00%. This shows a slight increase but still has not reached the expected target. The percentage of student activity in the learning process also reached 63.92%. Based on student learning outcomes in cycle I, it is known that the average student learning outcomes is 66.57. with the sufficient category, and the percentage of completeness of student learning outcomes is 45%, it turns out that the results still have not fully reached the expected target, especially in terms of increasing learning outcomes and increasing 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 at the second meeting, including: Better preparation, especially in terms of applying the Direct Instruction learning model, demonstrating techniques, class mastery, asking questions and evaluating the learning process. Observing weaknesses in the learning process and fixing them 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 85.71%, was included in the good category. Likewise, the average percentage of student activity in the learning process of meeting 1 and meeting 2 obtained an average observation of 87.22%, including in the good category. The average student learning outcomes in cycle II reached 83.10 belonging to the good category and the percentage of student learning completeness reached 100%. Based on student learning outcomes in cycle II, it turns out that the results have reached the expected target and meet the KKM 70 standard. Therefore, the researcher concludes that: By applying the Direct Instruction learning model optimally in learning activities, it can improve student learning outcomes and increase learning activity in following Learning Activities. Which is where the average student learning outcomes in the first cycle of 66.57 increased in the second cycle of 83.10. The average student learning outcomes by applying the Direct Instruction learning model optimally increases.

Comparison of Findings with Theory

During the process of implementing this research, the researchers obtained findings, namely: the Direct Instruction learning process will increase student activity and student learning outcomes can increase if applying the Direct Instruction learning model to the Basic Competency of Applying Wood Construction Work Procedures. As described in Chapter II, the basic theory that forms the basis for conducting this research is the Direct Instruction learning model. The Direct Instruction learning model is a learning model specifically designed to support student learning processes related to declarative knowledge and well-structured procedural knowledge that can be taught with a gradual pattern of activity, step by step.

Based on the description above, the researcher compared the findings with theory, namely the implementation of the Direct Instruction 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 and reflected on to find out weaknesses in learning process activities.

Implications of Research Results

In the world, the implication of this research is through the application of the Direct Instruction learning model which has advantages compared to other learning models where the Direct Instruction learning model can attract the attention of students to be more focused, avoid students' mistakes in memory, through the application of this learning model verbalism can This can be avoided, by the way students can observe directly and can practice the learning given 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 experimenting, 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. This Direct Instruction learning model is a learning model specifically designed to support student learning processes related to well-structured declarative knowledge and procedural knowledge that can be taught with gradual activity patterns, step by step so as to make students more active.

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 Direct Instruction learning model in this study still has various weaknesses. If there are other learning models used, it is possible to get different results. The subjects of this study were limited to students of class X-DPIB at SMK Negeri 1 Lotu and were not compared with other class subjects. The object is to increase learning outcomes in the Basics of Building Construction and Land Surveying Techniques subjects with the basic competency of applying procedures for wood construction work through the Direct Instruction 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 research data that has been carried out by researchers regarding the application of the Direct Instruction learning model in the learning process of Fundamentals of Building Construction and Soil Measurement Techniques with Basic Competence in Applying Procedures for Wood Construction, in Class X-DPIB, SMK Negeri 1 Lotu it can be concluded as follows: The learning process on Basic Competency (KD) Applying Wood Construction Work Procedures by applying the Direct Instruction learning model. The average result of observing the learning process of teacher respondents in the first cycle reached 73.21%, and the second cycle reached 85.71%. The average observation results of students who were active in the learning process in cycle I reached 66.57%, and cycle II reached 83.10%. Average learning outcomes by applying the Direct Instruction learning model. In the first cycle the average student learning outcomes was 66.57 and the percentage of completeness was 45%, while in the second cycle the average student learning outcomes reached 83.10 in the good category and the percentage of completeness of student learning

outcomes was 100% and had reached the target which has been set. By applying the Direct Instruction learning model to the Basic Competency of Applying Timber Construction Work Procedures, it can improve student learning outcomes in class X-DPIB in the subject of Fundamentals of Building Construction and Land Surveying Techniques at SMK Negeri 1 Lotu.

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 Direct Instruction learning model in learning can improve student learning outcomes, especially in the Basic Competence of Applying Procedures for Wood Construction Work. In the learning process, the teacher should be able to improve students' skills in the learning process of Fundamentals of Building Construction and Land Measurement Techniques by using the Direct Instruction learning model in accordance with the material discussed. The teacher should continuously improve the weaknesses that may occur in the learning process.

BIBLIOGRAPHY

Afandi Muhamaad dkk. 2013. Model dan Metode Pembelajaran di Sekolah. Semarang: Unissula Press.

Akhiruddin dkk. 2019. Belajar dan Pembelajaran. Makassar: CV. Cahaya Bintang Cemerlang.

Djamaluddin Ahdar dan Wardana. 2019. Belajar dan Pembelajaran. Yogyakarta:. CV. Kaaffah Learning Center.

Hayati Sri. 2017. Belajar & Pembelajaran Berbasis Cooperative Learning. Magelang: Graha Cendekia.

Helmiati. 20012. Model Pembelajaran. Pekan Baru: Aswaja Pressindo.

Hunaepi dkk. 2014. Model Pembelajaran Langsung. Mataram: Duta Pustaka Ilmu.

Kunandar. 2013. Penilaian Autentik Suatu Pendekatan Praktik. Jagakarsa: Raja Grafindo.

Kuncoro Cahyo. 2013. Pengoperasian Mesin Kerja Kayu. Jakarta: Menteri Pendidikan dan Kebudayaan.

Kusnandar. 2009. Langkah Mudah Penelitian Tindakan Kelas Sebagai Pengembangan Profesi Guru. Jakarta: PT. Rajawali Pres.

Martono Budi, dkk. 2008. Teknik Perkayuan Jilid 1. Jakarta : Direktur Pembinaan SMK.

Nassution Wahyudin Nur & Asnil Aidah Ritonga. 2019. Strategi Pembelajaran Kooperative Konsep Diri Dan Hasil Belajar Sejarah . Medan : CV. Widya Puspita.

Nurdyansyah & Eni Fariarul. 2016. Inovasi Model Pembelajaran Kurikulum 2013. Sidoarjo: Nizamia Learning Center.

Nuryadi dan Nanang Khuzaini. 2016. Evaluasi Hasil dan Proses Pembelajaran Matematika. Yogyakarta : PT. Leutika Nouvaletera.

Qodir Abdul. 2017. Evaluasi dan Penilaian Pembelajaran. Yogyakarta: K-Media.

Setiawan Andi. 2017. Beajar dan Pembelajaran. Palangka Raya: Uwais Inspirasi Indonesia.

Shoimin Aris. 2017. Model Pembelajaran Inovatif. Yogyakarta : Arr-Ruzz Media.

Siagian Robert. 2014. Bahan Ajar Konstruksi Bangunan Jilid 2 SMK. Bandung: Kementerian Pendidikan Dan Kebudayaan.

Suprojono Agus. 2010. Cooperative Learning. Surabaya: Pustaka Pelajar.

Suryaningrum. 1990. Dasar – Dasar Konstruksi Bangunan. Jakarta Timur: PT. Bumi aksara.