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ABSTRAK

In this study, student learning outcomes were carried out by t-test on daily score by applying the Discovery Learning learning method. Then the core competencies that are expected from students are: able to practice a committed attitude in carrying out the mandate, as well as practicing innovative and creative behavior. Meanwhile, the basic competency that is expected is that students are able to appreciate that power is a mandate. The data on learning outcomes obtained in the field from students in class XI-3 at MAN Insan Cendekia South Tapanuli amounted to 20 people according to class attendance. The learning outcomes or scores obtained with a critical value of t with db 20 at a significance level of 5% are = -3, 984, 1% = 2.750. The t-calculated value obtained is = 3.5222. This means that the t-value (thit) is greater than the t-table value at the 5% significance level (tt) result: 1.729. THIT 3.5222), and in the significance level of the value of T-table 1% is still greater than the value of T-table 1%. The result of thit 3.5222 > tt 2.860935 on t-table 1%. The t-calculation value based on the empirical evidence obtained, it can be concluded that the final result shows an increase in learning outcomes of grade XI-3 students when applying the discovery learning method and is acceptable with an average of 78.6.

Keywords: Discovery Learning, Learning Outcomes, Teaching Materials

INTRODUCTION

Learning methods are a means to help students or learners understand lessons easily. The choice of learning method also determines the success of the learning and teaching process in the classroom by an educator. With the right learning method by choosing one of the teaching materials in the chapter being studied, it will be one of the things that determines the success of the learning and teaching process in a class. Furthermore, the mastery of the subject matter by the educator itself is a supporting factor for success in the learning and teaching process. The effectiveness of learning with learning methods should be able to attract students' interest in learning which results in increasing student or student learning achievement.

In Islam there is a lesson in the importance of seeking knowledge, so from the long journey of Islam that has experienced ups and downs in its development, it can be learned to be taken advantage of for the progress of Muslims. By learning, Muslims will experience the

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processing of development and progress. That is the importance of seeking knowledge for Muslims to develop and progress.¹ Education as a place for students to pursue knowledge and develop their potential is a vehicle that will educate prospective successors to the nation. Of course, it has its own system set by government authorities or more specifically ministers who take care of the education sector itself for its citizens. This aims to prepare a generation that is intelligent and has ethics and democracy.²

As a system, education has a number of components that are interrelated with each other to achieve a goal. A component is a part that is a unit. These components include curriculum components, teachers, methods, facilities, infrastructure, and evaluation.³ In evaluating the learning and teaching process, educators are required to apply it objectively in accordance with the learning evaluation procedures that have been outlined.⁴ Not in non-standard or instant ways such as; predicting the grades that will be given to each student Or perhaps there is still something that happens when an educator, teacher, or lecturer in education in giving grades to his students, namely by paying attention to the closeness of students, based on their faces; if beautiful the score is good and if the face is ugly, so be it. In short, when an educator carries out lesson evaluation to provide grades to his students, it is by "cutting and slash" according to the wishes of the educator himself without an assessment in accordance with the assessment rules themselves.

Therefore, it is appropriate for an educator to evaluate in accordance with valid (legal) and reliable (trustworthy) rules as well as in accordance with the development and abilities of the students themselves. With good and correct assessment, it will produce students who are trustworthy and reliable. Therefore, it is necessary to conduct a well-standardized evaluation.⁵ Improving student learning outcomes is the goal of selecting the right learning method, and is expected to be able to encourage students to excel as expected. The most important thing is that there is an increase in interest in learning because students are interested in taking part in the lesson itself. Therefore, learning methods are one of the most important parts for the success of the learning and teaching process. To complete the teaching material, of course, the role of learning methods is a means for educators to succeed in learning for students in the classroom to achieve learning goals in SKI subjects. He said that one way to help students who do not understand the Teaching Materials that have been delivered by educators in learning is to involve students who are complete and understand the teaching materials or reciprocal teaching that has been delivered by helping to teach their friends who do not understand or vice versa.8 To assess the learning outcomes of the students themselves, it is carried out with a group learning test which then the group learning results are made in the form of papers and presented in front

¹ Zulhimma, History of Islamic Education: An Analysis of Islamic Education Policy, Jakarta: Kencana publishers, first printing, 2021, pp. 4-5.

² Risman Sikumbang, New Orientation in Educational Psychology, Bogor, Ghalia Indonesia Publisher, cet. 2nd, 2015, pp.173-174.

³ Zainal Efendi Hasibuan, Educational Leadership in the Perspective of Hadith, Medan: Cv Mitra, 2013, p. 93.

⁴ Suharsimi Arikunto (3rd ed), Basics of Educational Evaluation, Jakarta: Pt Bumi Aksara, cet.1, 2018, p. 96.

⁵ Hamzah B.Uno and Nina Lamatenggo, The Duties of Teachers in Learning: Aspects that Affect, Jakarta: Pt Bumi Aksara, cet. 2nd, 2018, p. 139.

⁶ Hamzah B.Uno and Nurdin Mohammad, Learning with the PAILKEM Approach: Active, Innovative, Environmental, Creative, Effective, Interesting, Jakarta: Pt Bumi Aksara, cet. 4th, 2013, p.174.

⁷ Made Wena (ed), Contemporary Innovative Learning Strategies: An Operational Conceptual Review, East Jakarta: Pt Bumi Aksara, cet. 10th, 2016, p. 14.

⁸ Fisher Doughlas, et.al, Visible Learning for Literacy, Grades K-12: Iplementing the practices that work best to acclerate Student Learning, California: CorwinA SAGE Company, 2016, hlm. 75-76.

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of the class. What are the learning outcomes of students after the Discovery learning method is carried out? Is it acceptable after a different test is carried out with the analysis of the t-test on the score after completing the learning and teaching process on the teaching material of the subject of Islamic Cultural History (SKI) class XI-3? Does the application of the Discovery Learning learning method as a variable have a positive influence on students' learning interests?

Discovery Learning is a learning process that refers to mastering knowledge for oneself. The Discovery Learning process involves the direction of the teacher to regulate the activities that students do such as finding, processing, tracing and investigating. Students learn new knowledge relevant to a particular material or content and general skills such as formulating rules, testing hypotheses and gathering information. Discovery Learning is one of the learning models used in the modern constructivist approach. In discovery learning, students are encouraged to primarily learn on their own through active engagement with concepts and principles. The teacher encourages students to have experience and experiment by allowing them to discover principles and concepts for themselves.⁹

Discovery Learning learning steps include problem formulation; Providing provisional answers or submitting hypotheses; Search for data information, data, facts needed to answer hypotheses, problem solving and hypothesis testing; Drawing conclusions from answers or generalizations; and Drawing conclusions. Slightly different from the review above, the Ministry of Education and Culture (2013) and also Sinambela (2017) set six stages in Discovery Learning learning including Stimulation or the provision of stimulation; Problem statement or problem identification; Data collection or collection of data and information; data processing or data processing; Verification or data analysis and interpretation or also called proof; Generalization or drawing conclusions. The stages of Discovery Learning learning referred to here are educators

The advantages of Discovery Learning include active involvement of students in PBM; Learning activities are more meaningful Students acquire investigative and reflective skills that can be applied in the context of other lessons; Students have new experience in learning lesson skills; Learning approach with students' initial knowledge and experience, encouraging independence, and being able to remember concepts, data or information; This method supports the improvement of group work. Disadvantages of Discovery Learning include, the Learning and Teaching Process is longer; Requires adequate infrastructure facilities and facilities; The quality and skills of learners determine the results or effectiveness of the method; The ability to understand and recognize concepts cannot be measured by the activeness of students in the classroom alone; Students often have difficulty forming opinions, making predictions, or drawing conclusions because each student has different abilities; Not all teachers use the Discovery learning method and are able to monitor PBM effectively. Meanwhile, according to the Ministry of Education and Culture (2013), several other weaknesses are as follows: Students must have an initial understanding of the concepts learned; It is not suitable for the class of students; Need to be consistent (continuously) in the implementation of methods; It is used to study the concept and understanding of cognitive aspects compared to psychomotor and affective aspects in the taxonomy of learning.¹⁰

The teaching materials used in this research trial are contained in Chapter VI of pages 65 to 74 as a whole contained in the book History of Islamic Culture for class XI in 2020 published by the Ministry of Religion. The textbook is the main book in class XI-3. The teaching materials

⁹ M.Hosnan, Scientific and Contextual Approaches in 21st Century Learning, Bogor: Ghalia Indonesia Publishers, cet. 3rd, 2016, pp. 281-282.

¹⁰ Siti Khasinah, Discovery learning: Definition, Syntax, Advantages and Weaknesses, Banda Aceh: Mudarrisuna Journal: Islamic Religious Education Study Media, vol.11, no.3, 2021, pp. 402-413.

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are in accordance with KMA number 347 of 2022 concerning Guidelines for the Implementation of the Independent Curriculum regarding content standards, which are minimum criteria that include the scope of material to achieve graduate competencies. The PAI and Arabic Content Standards in MA include the scope of PAI and Arabic material in MA which are dynamically adjusted to the development of the times and the challenges faced by society, by taking into account the various individual characteristics of students and their social environment. Flexibility and adaptation of specific needs in the scope of this standard need to pay attention to students with special situations, such as people with disabilities, and communities in remote areas.¹¹

METHOD

This study uses a quantitative research approach carried out at MI Ar-Ridhwan, South Tapanuli with a total of 20 students, starting from the third week of April 2024 to the third week of May 2024. The first step is to make observations to determine the sample in the study. Then after that, determine the research sample to be researched. Class XI-3 is prepared to smooth the research which first obtains oral research permission to the teacher who is teaching in the class in question and coordinates with the Deputy Head of Curriculum Division. The reason for choosing class XI-3 as a research sample is because the students proactively follow every suggestion instructed by the researcher himself.¹² Meanwhile, the approach in this study is carried out with a quantitative approach using the Experiment method by applying a single sample t-test to the comparative level of learning outcomes of each student in grade XI by taking samples from the entire population that has been determined in advance by the researcher of the teaching material which will then be studied in class until it is completed with the discovery learning method. 13 Furthermore, the assessment in the evaluation of student learning is carried out by assessing the affective domain. The previous research conducted by Syafiq Nashan, et.al from Muria Kudus University using a single-sample t-test formula showed that the mathematical average of grade V students of Elementary School 2 Bulung Kulon was equal to 75. 14 Hypothesis is a temporary answer to the formulation of the problem in the form of a question because the answer given is still at the theoretical level rather than on empirical facts through data collection (Sugiyono, 2014). A hypothesis is a tentative statement that is a conjecture about what we are researching in an attempt to understand it (Jonathan, 2006). Research that formulates a hypothesis is a study that uses a quantitative approach. In the qualitative approach, no hypothesis is formulated. However, it is hoped that a hypothesis can be found. In the research activities, the first tested is the research hypothesis (Sugiyono, tt). To test a hypothesis, it requires data and facts by first establishing a research framework.¹⁵

In this study, the researcher measured and assessed the learning outcomes of a chapter in the teaching material that had been agreed upon in class XI-3 of students in the affective realm and carried out a t-test test on the scores obtained by students who went through PBM that had

¹¹ KMA number 347 of 2022 concerning Guidelines for the Implementation of the Independent Curriculum in Madrasahs, pp. 21-22.

¹² Pupu Saeful Rahmat, Student Development, East Jakarta: Pt Bumi Aksara, cet. 1st, 2018, p. 83.

¹³ H.M. Hasbullah (ed), Education Policy: In the Perspective of Theory, Application, and Objective Conditions of Education in Indonesia, Jakarta: Rajawali Press, cet. 2nd, 2016, p. 246.

¹⁴Syafiq Nashan, et.al, Analysis of Differences in Student Learning Outcome Achievement Using the PBL Method Class V SD 2 Bulung Kulo n, Surabaya: UM Surabaya, Conference Of Elementary Studies: Implementation of the Pancasila Student Profile Strengthening Project (P5) in the Curriculum in Elementary Schools, 2023, pp.753-760.

¹⁵Magdalena, et.al, Research Methods: for writing research reports in Education, cet. 1st, Bengkulu: Literasiology Book Publisher, 2021, p. 77.

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taken place. ¹⁶ Then the basic competencies that are expected that students appreciate that power is a mandate. Meanwhile, the core competencies that students are expected to be able to practice a committed attitude in carrying out the mandate and practice innovative and creative behavior in accordance with those contained in the basic competencies and core competencies in the handbook of the 11th grade Islamic Cultural History subject. Single sample t-test is usually performed on subjects of less than 30 people. The data on the results of the test post obtained in the field for class XI-3 students at MAN Insan Cendekia South Tapanuli amounted to 20 people according to class attendance.

The hypotheses proposed are as follows:

Ho: there was no significant difference between the average sample count and the value of the population parameters.

Ha: there is a significant difference between the average sample count and the value of the population parameters. Or it can be written as follows:

Ho: "There is no increase in the learning outcomes of students in grade XI-3 when applying the discovery learning method " was rejected.

Ha: "There is an increase in the learning outcomes of students in grades XI-3 when applying the discovery learning method " was accepted.

RESULTS AND DISCUSSION

The application of the Discovery learning method in SKI subjects in grades XI-3 received a fairly good response from the students. Students are enthusiastic in participating in lessons facilitated by educators. Although there are several obstacles faced by some students when the learning and teaching process takes place. However, in general, it can still be overcome with the help of educators in the classroom concerned. In this case, the researcher is also directly involved with the research object by first conveying it to the students. The object of the research itself here is the students themselves. Government Regulation Number 19 of 2005 article 24 (25) concerning National Education Standards explains that the competencies of graduates of educational units include attitudes, knowledge and skills. This means that learning and assessment must develop and measure students' competencies related to the affective (attitude), cognitive (knowledge), and psychomotor (perception) domains. The affective realm measures interests and attitudes that can be in the form of responsibility, cooperation, discipline, commitment, confidence, honesty, respect for the opinions of others, and the ability to control oneself. Affective assessment was carried out with a non-test instrument.¹⁷

Authentic assessment of cognitive learning outcomes relates to intellectual prowess. Intellectual prowess is the ability of individuals to respond to their environment through symbols. With these symbols, a person can be able to describe objects and the relationships between objects in their environment. So a cognitive learning strategy and its assessment are needed. Cognitive strategies are widely used when individuals formulate and think about solving new problems they face. This ability is expected to improve, if individuals learn and think more. ¹⁸

Gagne (1997) is of the view that the condition of psychomotor learning outcomes can be optimized by internal and external conditions. According to BNSP (2006), internal conditions can be optimized by (a) reminding part of the skills that have been learned, and (b) reminding the procedures or steps of the movement that have been mastered. Meanwhile, external

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¹⁶ Abdul Majid, Authentic Assessment of Learning Processes and Outcomes, Bandung: PT Remaja Rosdakarya, cet. 3rd, 2017, p. 163.

¹⁷Supardi, ed, Authentic, Cognitive, and Psychomotor Assessment: Concepts and Applications, Jakarta: Rajawali Press, cet. 2nd, 2015, p. 121.

¹⁸Ibid, p. 151.

conditions can be optimized by means of (a) verbal instruction, (b) gamabr, (c) demonstration, (d) practice, and (e) feedback. According to Gagne, to find the lesson material first starts from the lesson objectives that must be achieved and goes back to the previous steps which are a requirement to achieve the lesson objectives. Each of the lesson steps that are passed is a prerequisite to go to the next lesson step to achieve the lesson objectives exactly as shown in the following chart:²⁰

Picture. 1. Chart of steps in learning according to Gagne

$$L_{a-3}$$
 ---- $TL_{a-2}L_{a-1}L_a$

Based on the picture mentioned above, to gain an understanding of the results of the learning process for students, they must follow the learning steps in stages starting from the initial learning step, such as students following when the educator associates the lesson at the beginning with the teaching material in the previous meeting, until the student enters the core learning process explained by the educator in the next step and the educator concludes the teaching material in the previous meeting. end of learning. Hasibuan (2013) stated that learning methods, especially in the field of history, include the following: Teachers should convey the urgency of studying history for the next generation of Muslims; The teacher asks the answer to the question of what, when, where, who, how to make an event clear; The teacher explains the wisdom of a history; The teacher assigns students to study and read a specific history and; Teachers relate or connect history with current real conditions so that their relevance is clear.²¹

The group discussion in the learning and teaching process in this study focuses on affective assessment of each student. In the group discussion, educators monitor the ongoing discussion among students to discuss the teaching material in chapter X of the Islamic Cultural History teaching module class XI. The first step, in applying the Discovery Learning learning method, is for educators to divide students in class XI-3 into four groups by drawing the names of students into four parts. Then after forming four groups of groups, students discuss to discuss the subject matter in the chapter of the Safawaiyah Dynasty which will be learned from the teaching materials provided by the educator. Before starting the lesson, the educator stimulates students in general related to the lessons in the chapters that will be discussed by the students later in the next face-to-face meetings. Followed by a question-and-answer session for groups who do not understand learning techniques to educators.

The next step at the next meeting is for students to start discussing to prepare for the task of presenting the specified discussion materials which will later be presented in front of the class. For each group, they get an assignment in accordance with the sub-chapter of the material in the chapter of the Safawi Dynasty in the Islamic Cultural History Teaching Module at the Madrasah Aliyah level written by Mohammad Sulaiman in chapter IV pages 65-74 published by the Directorate of Madrasah KSKK, Directorate General of Islamic Education, Ministry of Religion in 2020. The sub-chapters in the teaching material chapter material in class XI-3 consist of; The history of the birth of the Shafawi. The members of the group are: Nayla, Fatih, Rule, Rafiq, and Zaki. The second material is the leadership strategy of the Shafavid dynasty with the names of the groups: Anjani, Cikal, Rifai, Rico, Naswa, Novry, and Rifai. The third material, the progress and glory of the Shaafawi dynasty with the names of the members of the group: Putri, Nandri, Anissa, Yogi, and Levy. The last material with the title: the reasons for the decline of

¹⁹Ibid, p. 177

²⁰S.Nasution, 1st ed., Educational Technology, Jakarta: Bumi Aksara, 2012, pp.66-68.

²¹ Zainal Efendi Hasibuan, Learning Methods Based on the Qur'an and Hadith, Medan: CV Mitra Medan, cet. 1st, 2013, pp. 145-146.

the Shafawian state with the members of the group: Assyifa, Azrul, Najwa, Sulthan. Each group discusses together with all members of their respective groups using all the resources and media needed such as: relevant textbooks, newspapers, magazines, internet, mobile phones, laptops, audio visuals, infocus, and others.²²

The learning results or scores obtained are as follows:

					Tab	ole. 1	. Lis	t of s	stude	ents'	dail	y grad	de sco	ores						
No	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Na me	Rafi q	Rif ai	Anit a	Anja ni	Assyif a	Azr ul	Cik al	Fati h	Lev	Ric o	Lio ns.	Najw a	Nand ri	Nasw a	Nayl a	Nov ry	Nor m	Da ugh ter	Sultha n	Yo gi
Shoe	82	73	81	73	82	82	73	82	81	73	82	82	81	73	82	73	82	81	82	81

Based on the results of the list of students' daily score scores in the table above, from the total of all students, most of them obtained fairly good grades which were at scores 81 and 82 from the minimum completeness criteria or KKM at a score of 73. There were ima students who got a score of 81, and nine students who got a score of 82. Meanwhile, six students obtained scores at the KKM limit.²³ After the presentation of the paper, students together with educators reflect on the results of the presentation and evaluate the whole. The educator directs students on how to start presenting material in the form of papers to the presentation session and end the presentation in the presentation of student papers.²⁴ Matters related to the presentation while taking place in front of the class. Such as: material presentation sessions, question-and-answer sessions, and discussion sessions on the results of paper presentations and reflections from educators. At the end of the session, corrections or corrections were made by each group member when presenting their papers, such as: how to open and close the presentation of the material in the paper for the moderator, how to explain the content of the material and answer questions. Also, how to criticize and respond to students who participate in the discussion of each group who are performing in front of the class.²⁵

The way to present a diagram of branches and leaves imitates a tree that has branches and leaves. The data that becomes a branch is grouped for example for the number of tens so that the unit number to become a leaf. The daily score in the sub-chapter of Lessons in the Islamic Cultural History teaching module class XI-3 is made in the form of a leaf stem diagram table as follows:²⁶

Table. 2. Branch and leaf diagram

Dahan	Daun
7	333333

²² Rusman, et.al, Information and Communication Technology-Based Learning: Developing Teacher Professionalism, Depok: Pt Raja Grafindo Persada, cet. 3rd, 2013, pp. 301-302.

²³ H.E.Mulyasa, Implementation of the Curriculum at the Teacher and Principal Independence Education Unit Level, Jakarta: Pt BumiAksara, cet. 5th, 2013, p. 209.

²⁴ Trianto, Integrated Learning Model: Concepts, Strategies, and Implementation in the Curriculum of Educational Units (KTSP). Jakarta: Pt Bumi Aksara, cet. 7th, 2015, p. 77.

²⁵ Rita Mariyana, et.al, Learning Environment Management, Jakarta: Kencana Prenada Media Group Publisher, cet. 3rd, 2013, pp. 147-148.

²⁶ Nila Kesumawati, et.al, Introduction to Research Statistics, Depok: Pt Raja Grafindo Persada, cet. 2nd, 2018, p. 34.

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Based on the diagram above, the score of 82 is the most score with 9 students. Then the score of 73 amounted to 6 students, and the fewest was 81 amounting to 5 students, whose score was obtained from the learning results by discussing in groups that had been determined by the discussion group of each student into several discussion groups. What is arranged at the beginning of the lesson is to discuss the teaching material that is agreed upon through class deliberation to determine the discussion group starting from the members of each group to the technical, methods and materials needed in group learning later. Meanwhile, the frequency distribution of daily score test results for class XI-3 in the subject of Islamic Cultural History is as follows:

Class	Frequency	Interval class edges	Titik tengah

Table. 3. Table of Frequency of student score scores

Test Score Interval 70 - 8075 6 69,5 - 80,581 - 86 14 80,5 - 86,583 20 Sum

The interval of student test scores with the number of learning outcome scores of 6 students is between 70 to 80 students. Furthermore, the score of 81 to below the score of 90 amounted to 14 students. Meanwhile, the lower edge value of the learning outcomes of class XI-3 students is divided into 69.5 to 80.5 and 80.5 to 86.5 to 86.5 numbers. The upper edge value of 86.5 is the highest number in the frequency table of class XI-3 in the subject of Islamic Cultural History.²⁷

After the entire group finished presenting the papers resulting from the group discussion, the educator acted as an evaluator of the challenges and obstacles as well as the things faced by the students when preparing the presentation assignment and the learning process in compiling the paper. Until the process when completing the results of the discussion group for the presentation of student papers is assessed by the educator. Educators provide inputs that aim to stimulate students to be enthusiastic in making tasks that will be given by an educator. Educators also provide tips and tricks for making media for good and correct presentations in addition to directing students on how to work on papers that are in accordance with the writing rules.

At the last meeting of the lesson teaching material, the educator made a questionnaire to be filled out by students which aimed to help students increase their willingness to learn as well as a reflection for students, of course. With the list of questions in the questionnaire, it is hoped that students can answer the learning problems they face when participating in the group discussion process and internalize the spirit of learning and the spirit to pursue learning achievements in the learning and teaching process. By paying attention to the obstacles faced

²⁷ Anas Sudijono (ed), Introduction to Education Statistics, Depok: Pt Raja Grafindo Persada, cet. 26th, 2018, p. 40.

when participating in the learning and teaching process and in post-study, students will later get used to evaluating their learning outcomes. And it is hoped that each student can draw conclusions from their final learning results which are manifested in the form of learning outcome values that have been issued by educators. The number of learning outcomes obtained by students is a symbol of the quality of their learning during the period of face-to-face hours with educators in the learning and teaching process.²⁸

The questionnaire questions are as follows:

Table. 4. The questionnaire tabulation list determines the attitude of students

No	Daftar Pertanyaan	Keterangan			
1.	What obstacles did you face while working on group discussion assignments in your group?	Terjawab			
2.	What role do you play in doing group discussion assignments in your group?	Terjawab			
3.	Are you satisfied with the composition of the members in the division of study groups? (all students)	Terjawab			

Based on the list of questionnaires given to students, they answered according to what they thought and experienced from the beginning of learning to the completion of the presentation assignment of the results of the group discussion in front of the class. In general, all students are satisfied with the composition of the membership. It is not just a discussion group formed at the beginning of the lesson. Because the division of discussion groups is carried out in a democratic way through open discussions with educators without intervention from the educators themselves. So that the formation of discussion group members is expected to be solid and compact without any pressure from each group member between his own group members and other group members. The students' answers based on the questionnaire above at number one are as follows:

Cikal: "the obstacle in working on a paper is to compose sentences and find accurate information". Naswa: "uneven division of tasks in groups (studying), sullid looking for valid references as many pages of papers as determined, lack of understanding of the material just by making papers and making ppt/important points/presentations" Novry: "lack of time in finding materials so that the material is incomplete, lack of teamwork (in discussion groups)" Rico: "it is difficult to find material (materials) too many other materials so there is less time for this material (SKI lessons)" Najwa: "It is difficult to find accurate references from several journals, understand the material just by reading, and network (internet) constraints. Rifai: "a little help in solving problems, looking for information (reference materials)".

Based on the obstacles collected by the researcher, it is shown that some students, especially those who get scores at the limit of KKM, are lacking communication.

²⁸ Jumanta Hamdayana, Teaching Methodology, Jakarta: Pt Bumi Aksara, cet. 2nd, 2017, p. 191.

Miscommunication Or lack of interaction between fellow group members so that fellow group members do not reinforce each other which has an impact on the quality of learning in the group. So that it affects the learning atmosphere of students which also has an impact on the learning outcome score obtained at the end of the learning and teaching process. The students' score was processed by a statistical test with one sample. To test the statistics of the collected learning outcome data, the researcher used the "one smple test" in the 25th edition of the SPSS calculation application which was carried out to test the lowest and highest scores based on the scores of the learning outcome group in class XI-3.²⁹ This program is used to process and organize or organize data that has statistical analysis and data management systems as well as graphical environments.³⁰

The advantage of using the spss 25 application is that it makes it easier for users to calculate the results of calculating the average score of student learning outcomes. Then the application work process is so fast in managing the data that the researcher inputs in the SPSS 25 application. It only takes a fraction of a second to process the data input that has been given to the application which is only between one and two seconds. Then the size of the application is about one gigabyte and does not burden the user's computer device too much. How to install the application, just follow the procedure set out in the guide to using the spss 25 application. The results of the application calculation are as follows:

31-MAY-2024 11:02:23 Input Active Dataset DataSet0 Filter <none> Weight <none> Split File <none> N of Rows in Working Data 20 File Definition of Missing User defined missing values Missing Value Handling are treated as missing. Statistics for each analysis Cases Used are based on the cases with no missing or out-of-range data for any variable in the analysis. Syntax T-TEST /TESTVAL=73 /MISSING=ANALYSIS ✓ARIABLES=Nilai /CRITERIA=CI(.95). Resources Processor Time 00:00:00.02 Elapsed Time

Picture. 1. The result of the calculation of spss 25.

	(One-Samp	le Statistics	
	N	Mean	Std. Deviation	Std. Error Mean
Nilai	20	78.6000	3.81686	.85348

Based on the results of the calculation using spss 25 with one sample, data as shown in the figure above shows that the statistical value of the number of 20 students as the subject of the sample group with the lowest number of learning outcomes of students in grades XI-3 is in the score of learning outcomes taken from the score table in the table. 1, the number 73. So the results are in accordance with the calculation using the spss 25 application processing with one sample resulting in an average value of 78.6000. Furthermore, the standard deviation resulting

²⁹ Maya (ed), Quick Learning of Parametric and Non-Parametric Statistical Analysis with SPSS, Yogyakart: CV Andi Offset, 2015, p. 2.

³⁰ https:/codingstudio.id/blog/spss-pengertian-kelebihandan-kekurangannya/, accessed on July 30, 2024.

from the measure of the number of learning outcomes of all students is 3.81686. Meanwhile, the average standard error is 0.85348. The degree of freedom or db of the results of statistical test calculations from the entire population and sample is part of the function to determine the minimum sample in general research. In the research that has been carried out, the results are as follows: Db = N-1, where Db = 20-1 =19, so the result is 19 which can be seen in the following SPSS test results:

	Gan	nbar. 2. Hasil _I	perhitung	gan spss	25.		
T-TEST							
/TESTVAL=82							
/MISSING=ANALYSIS)						
/VARIABLES=Nilai							
/CRITERIA=CI(.95).							
I-lest							
	Notes						
Output Created		31-MAY-2024 11:03:10					
Comments							
Input	Active Dataset	DataSet0					
	Filter	<none></none>					
	Weight	<none></none>					
	Split File	<none></none>					
	N of Rows in Working	20					
Missing Value Handling	Definition of Missing	User defined missing					
	Cases Used	Statistics for each analysis					
Syntax		T-TEST					
Resources	Processor Time	00:00:00,02					
	Elapsed Time	00:00:00,00					
	One-San	nple Statistics					
	N	Mean	Std. Deviation	Std. Error			
Nilai	20	78,6000	3,81686	0,85348			
		One-Sample T	est				
			st Value = 82				
				Mean	95% Confidence Interval of the		
	t	df	Sig. (2-tailed)	Difference	Lower	Upper	
Nilai	-3,984	19	0,001	-3,40000	-5,1863	-1,6137	

Comfidence Interval of the Diffrence 95 percent means a confidence interval or a type of interval calculation, obtained from data that stores the true value of unknown parameters. Which deals with confidence levels that quantify the confidence level at which intervals estimate deterministic parameters. A confidence level that represents the proportion of an acceptable confidence interval that contains the true value of an unknown parameter. In other words, confidence intervals are evaluated using a certain confidence level from an unlimited number of independent samples. So that the proportion of the range contains the actual value of the parameter which will be equal to the level of trust.³¹ The lower limit of Comfidence Interval ot the Diffrence of 95 percent in the calculation of spss 25 learning outcomes of students in class XI-3 is at a score of -5.1863 and the upper limit is at a score of -1.6137.

To calculate t count, after obtaining the calculation results using spss 25 t-table with one sample, it is calculated with the following formula:

The formula of the Single sample t-test is as follows.

$$t = \frac{\overline{X} - \mu}{\frac{S}{\sqrt{n}}}$$

³¹ https://byjus-com.translate.goog/maths/confidence-interval/?_x_tr_sl=en&_x_tr_tl=id&_x_tr_hl=id&_xtr_pto=tc, will be accessed on July 30, 2024.

Description : t = treatment

 \overline{X} = Average number of samples

μ = average populations = standard deviation

n = number of subjects in the sample group

After obtaining the standard deviation value based on the statistical test calculation of one sample in the image. 2, then the formula to find the number of t-calculated values can be done. The standard deviation value obtained is at 3.81686.

Based on the test on SPSS 25 and the results obtained If applied in the formula with the calculation becomes:

$$t = \frac{78,6000 - 20}{\frac{3,81686}{\sqrt{19}}}$$

$$t = 3.5222$$

To find niai t-count is recognized by means of the average number of samples subtracted by the average population. The standard deviation, which is obtained is divided by the root of the number of subjects of the sample group so that a t-calculated value is obtained. To find the number of subjects in the sampael group, it is done by subtracting the total sample group by the number one. Only then is the standard deviation divided by the root of the number of subjects of the sample group. The standard deviation value is the body value. The critical value of t with db 20 at the significance level of 5% is = 0.005% with the value of t-calculation obtained is = . This means that the t-hit value is 3,5222 greater than the 5% t-table value (tt) as follows: to < the t-hit value of 5% (t1,729 hit 3,5222 > tt . The t-value is larger than the t-table value. So the difference between the t-hit value and 1,729 the tt value is 1.7932.

CONCLUSION

Based on the null hypothesis (Ho) indicator: "There is no increase in the learning outcomes of students in grades XI-3 when applying the discovery learning method" was rejected. Meanwhile, the alternative hypothesis (Ha): "There is an increase in the learning outcomes of students in grades XI-3 when applying the discovery learning method" is accepted. Where the critical value t with db 20 at the significance level of 5% is = 1.729, and the significance level of 1% = 2.860935. The t-calculated value obtained is = 3.5222. That means the t-count value (thit) is greater than the t-table value (tt) 5%: to 1.729, The t-count value is greater than the t-table value of 5% with one variable with an average of 78.6. Thus, based on the empirical evidence obtained in the field, it can be concluded that the final result occurs Improvement in learning outcomes of students in grades XI-3 when applying the discovery learning method is acceptable.

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