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APPLICATION OF CONTENT DIFFERENTIATION LEARNING TO IMPROVE LEARNING OUTCOMES OF CLASS V STUDENTS ON TUBE BUILDING MATERIALS

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ABSTRACT

Implementing learning through a differentiation approach is an adjustment effort made by teachers to meet the different learning needs of students. Differentiation learning is very necessary to support various characteristics of students. The application of differentiation learning is divided into 3, content differentiation, process differentiation and product differentiation, where researchers apply content differentiation to improve student learning outcomes in mathematics learning to build curved sided spaces in the form of tubes. The type of research used is Classroom Action Research (PTK) with II cycles. This PTK is carried out through four stages, namely planning, implementation, observation and reflection. This research was conducted at SDN Sememi II Surabaya. The instruments used in this research are teaching modules and observation sheets, content differentiation is made with 3 levels which are adjusted to the characteristics of students, namely low, medium and high in capturing learning material, this content differentiation is presented in visual form such as books, audio video power points , and kinesthetic. The results of this research show that student learning outcomes have increased. In cycle I, students obtained a completion percentage of 55% or 11 students, where students were still unable to determine the net of the tube correctly and calculate the area of the tube, out of 20 students who had achieved completeness with an average score. - average 64.60. In cycle II, the percentage of completeness increased to 95% or 19 students, were able to determine tube nets, calculate the area and make tubes, out of 20 students who achieved completeness with an average score of 84. Based on the research results it can be concluded that the application of content differentiation in tube building material can improve student learning outcomes.

Keywords: Learning Outcomes, Content Differentiation

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INTRODUCTION

In accordance with developments, Indonesian education from 2019 to 2022 experienced the Covid-19 pandemic crisis, which affected the student learning crisis which could be seen in the low learning outcomes of students, even in terms of learning such as literacy (reading) which was marked by a decline. the quality of student learning in many areas. Therefore, the publication of a new academic study submitted by the Minister of Education and Culture, Mr. Nadiem Anwar Makarim, in 2022-2023 means that in this policy, educational units in Indonesia can choose to implement the Independent Curriculum.

The independent curriculum is project-based learning, with intracurricular learning methods (learning carried out at school based on a structured learning program with an orientation towards academic improvement), which is presented in the form of diverse content, so that educators can optimize learning and increase the potential competence of students. (Heliwasnimar et al., 2024) In the quote that can be captured by researchers in the implementation of the independent curriculum, namely that learning for students is the most and most important thing because the aim of the independent curriculum is to create quality learning in accordance with the needs and abilities of students, with the development of this independent curriculum the implementation The appropriate learning method for developing is the differentiated application method.

Differentiated learning is an instructional or learning technique in which teachers (educators) use various learning methods to meet the individual needs of each student according to their needs. These needs can be in the form of learning styles, student knowledge, student interests, and the ability to understand and solve problems in learning. Simply put, differentiated learning allows each educator to interact with students with the same and harmonious understanding in order to prepare appropriate learning method preferences for those students to implement. In accordance with the definition, differentiated learning has the aim of creating equality of learning, which is in accordance with the characteristics or uniqueness of students, in readiness, interests and learning styles which can increase the potential talents and interests of students so that they can be developed for the future.

Differentiated learning, educators will always involve students in every aspect of learning, which educators use to consider the learning styles of students and friends, increasing interest in a learning problem which makes students explore learning content and concepts that suit their abilities. "Because the substance of differentiated learning is learning that facilitates all the differences that students have openly with the needs that students will achieve". (Atik Siti Maryam, 2021). In this research, researchers applied 4 differentiated learning methods, "differentiated learning can be implemented through modification, 1). Content, 2). Process, 3). Products and 4). Learning environment to better suit students' needs" (Tomlison, 2001). Content Differentiation, namely learning methods in the form of visual, auditory and kinesthetic. Where each student has a different level of understanding and learning style which can increase their ability to complete learning and improve learning outcomes.

Process Differentiation, a teacher can provide appropriate instructions or learning to each student in the learning process, where continuous assessment during the learning process will help the teacher understand whether each student has learned to the best of their abilities. In an appropriate learning process for students, teachers must understand the interests, abilities and level of knowledge of each student. In his explanation, there are some students who can learn well if they listen to verbal or audio instructions. On the other hand, for some students, just listening orally is not enough, they also have to read the explanation in the book repeatedly. There are students who can learn well through certain learning-related objects, but there are also students who are used to studying alone, or learning online. collaborative and group.

Based on this, teachers must be able to understand the needs of each student at the beginning of learning in order to create a different learning process and help each student to learn effectively

and have fun. Learning that is appropriate for teachers to apply is the ability to convey ways to solve problems, then apply the process and continue to provide support as students' learning develops. Product Differentiation, a method used by teachers to determine the level of understanding of the material or teaching materials prepared for each student to produce a work (product) from the learning results. To determine mastery of a material, a teacher can run a test, students are then asked to write a report on a topic based on the lesson material. The best method is a method that suits each student's ability level and interest level with the way they prefer to learn. For example, testing kinesthetic learners is through a practical assessment, while for auditory learners it is by carrying out a verbal assessment.

Learning Environment, in general the learning environment influences the development of student learning outcomes which are created to improve their learning or which can damage their learning. A calm, conducive and friendly learning environment can improve students' learning outcomes, and vice versa, an uncomfortable, noisy and unfriendly environment can reduce students' concentration and understanding of learning material. So in its development, this differentiated approach was used by researchers in learning curved side shapes where students still find it difficult to calculate and visualize curved side shapes, especially in learning material about tube shapes. Students are still not capable, which has an impact on decreasing student learning outcomes, so researchers try to apply this differentiated learning approach.

In accordance with these underlying matters and differentiation learning is the background for this research to be carried out, because it is stated in the syllabus and teaching module teaching materials, as well as the needs in class in learning mathematics on the curved sides of tubes. So, the researcher wants to carry out this differentiation learning research, with Classroom Action Research entitled "Application of content differentiation learning to improve the learning outcomes of class V students on the Tube Room Building material at SDN Sememi II Surabaya".

Based on the background and problem formulation above, the objectives of this research are:

1. Implement content differentiated learning in learning material for curved sided shapes for class V students, 2. improve learning outcomes in differentiated learning for class V students which can be seen from: 1. Students can calculate the surface area of curved sided shapes or cylinders to solve related problems easily to understand2. Students can create the space from the nets. 3. Students are able to solve contextual problems related to curved side shapes effectively and easily to understand.

Theoretical, a. Theoretical Benefits, 1. The results of this research are expected to increase knowledge and abilities in the flexibility of implementing a differentiated learning approach for elementary school students and can improve student learning outcomes with the right efforts.

2. Can contribute to learning that is in line with the curriculum, so that the potential of each student can be increased during the future learning process. b.Practical Benefits, 1. For teachers Improving the quality of learning that is fun, and not monotonous, can increase students' interest in the learning process and realize learning potential optimally and teachers can develop their lessons based on students' level of knowledge, learning preferences and interests, making it easier for teachers to evaluate each student's or individual needs. according to his needs.

2. For Students, a.Students do not feel that there is discrimination in the learning process in the classroom, making students feel that there is no pressure in learning.

b. Students are more able to solve learning problems that were initially difficult, more easily and more enjoyable.

Based on the identification of the problem above, the problem to be researched is limited to the process of implementing content differentiation learning in order to improve the learning outcomes of class V Mathematics, especially in the material on the curved sides of tubes which is implemented at SDN Sememi II Surabaya.

Learning outcomes, the learning outcomes discussed in this research are the results of learning from the differentiation approach method in curved-sided geometric lessons at elementary

school level which emphasizes improving learning outcomes for students with the results of evaluations using observation sheets and objective tests. Content Differentiated Learning, the content differentiation learning approach is a learning approach method that is carried out by providing content in the form of visualization or auditory, in this case an example is a power point containing tube material. Build the Space on the Curved Side of the tube a curved shape is a shape that has a curved surface. Each curved shape has a different volume and surface area formula. In this case, the curved shape in question is a tube.

Understanding Learning, learning is the process of acquiring knowledge recorded in memory, cognition and understanding which influences the understanding and formation of students' attitudes and beliefs. According to Dimyati and Mudjiono (2011) learning is a programmed teacher activity in instructional design, to create active learning, which emphasizes the provision of learning resources. In accordance with Law no. 20 of 2003 concerning the National Education System article 1 paragraph 20 states that learning is a process of interaction between students and educators and learning resources in a learning environment. Learning, according to (Sudjana, 2010), is a process characterized by changes in a person's self. Learning, according to Morgan in Agus Suprijono (2015), is a permanent change in behavior as a result of experience.

One sign that someone has learned something is a change in their behavior. These changes in behavior involve changes in the nature of knowledge (cognitive), skills (psychomotor) and those involving values and attitudes (affective). Learning not only includes subjects, but also mastery, habits, perceptions, pleasure, competence, social adjustment, various skills, and aspirations.

Learning is essentially a process of interaction between students and their environment, resulting in changes in behavior for the better. During the learning process, the teacher's most important task is to condition the learning environment so that it supports changes in behavior for students. Mulyasa (2010) Learning is a two-way communication process, teaching is carried out by the teacher as an educator, while learning is carried out by the students or students.

Based on learning theory, there are five definitions of learning, including the following; 1) .Learning is an effort to convey knowledge to students at school, 2) Learning is passing on culture to the younger generation through school institutions, 3) Learning is an effort to organize the environment to create learning conditions for students, 4) Learning is an effort to prepare students to become good citizens of society, 5) Learning is a process of helping students face everyday community life (Oemar Hamalik, 2004).

According to Gagne, as stated by Nazarudin (2007), learning can be interpreted as a set of external events designed to support an internal learning process. According to Nazarudin (2007) learning is an event or situation that is deliberately designed to help and facilitate the learning process in the hope of building student creativity. According to the various opinions above, it can be concluded that learning is a change in events or situations that are designed in such a way with the aim of providing assistance or convenience in the teaching and learning process so that learning objectives can be achieved. Learning Components, Learning components are important components that interact with each other in the learning process to achieve an educational goal. "in learning, including determining goals, stimulating attention, conveying information, providing feedback, and emphasizing the importance of a systematic teaching process" according to Robert M. Gagne (1965). The main components are; a) Learning Objectives: What you want to achieve in the learning process, such as knowledge, skills, or attitudes, b) Learning Material: Content or information to be studied, including the learning resources used, c) Learning Method: The strategy or approach used to deliver material, such as lectures, discussions, or project-based learning, d) Learning Media: Tools or materials used to support the learning process, such as books, videos and technological devices, e) Learning Environment: The physical and social conditions in which learning takes place, including the classroom atmosphere and interactions between students, f) Evaluation: The measurement process to assess the achievement of learning objectives, either through tests, quizzes, or performance assessments.

3. Learning Methods

a.Understanding Learning Methods

According to Endang Mulyatingsih (2012), learning methods can be interpreted as methods used to implement plans that have been prepared in the form of real or practical activities to achieve learning goals. Learning methods are the methods used by teachers in providing learning material during teaching. The learning model is the entire series of presentation of teaching material which includes all aspects before and after learning carried out by the teacher as well as all related facilities which are used directly or indirectly in the teaching and learning process (Nana Sudjana, 2005). Teaching methods can be interpreted as a plan or method used in compiling curriculum and teaching materials for students.

From several expert opinions above, it can be concluded that a learning method is a way of delivering learning material, using several models from the teacher to students so that a learning process occurs to achieve learning goals. Learning methods play a very important role in improving student learning outcome . If the learning method process is not appropriate then students in the class will become passive, and vice versa. So in the big sense, learning methods are the process of delivering learning, using certain methods and methods, to achieve a learning goal and improve the quality of learning to obtain the maximum expected learning results.

Various Learning Methods

Learning methods are created to make students more active and understand the material presented. Learning according to Nasution (2005) is learning as an activity to organize or manage the environment as well as possible and connect it with students so that the learning process occurs. According to Endang Mulyatiningsih (2012), learning methods consist of investigation, inquiry, discovery learning, problem based learning, problem posing and mind mapping.

a.Investigation

The investigative method is a method that involves students in investigative or research activities. This method can be carried out individually or in groups. Student activities start from planning, understanding the topic, and how to carry out investigations to complete the topic. This method aims to train students' abilities to write reports. Communication and group work skills, and require students to be active and creative.

b.Discovery (Inquiry)

The inquiry method is a method that involves students in the process of collecting data and testing hypotheses. Students are guided to find new understanding, observe knowledge based on their own learning experiences. This method requires students to learn actively and creatively to seek their own knowledge.

c.Discovery Learning

Discovery learning is a strategy used to solve problems intensively under teacher supervision. In discovery, the teacher guides students to answer or solve a problem.

d.Problem Based Learning (PBL)

Problem based learning is a strategy used to solve problems intensively under teacher supervision. At first glance, this method is almost the same as inquiry, but the difference lies in the role. In problem based learning the teacher is active in guiding students to solve problems together. Teachers are required to be creative in managing the class so that students are motivated to learn on their own.

e.Problem Posing

Derived from English from the words problem and pose which means posing a problem (question). This method aims to increase students' understanding of the problems they are studying. Students

are asked to continuously work on questions, so that the information obtained by students can last longer. Usually this method is used in mathematics or other cognitive learning subjects.

f.Mind Mapping

Mind mapping is a form of learning that trains the ability to present material content in the form of mind mapping. Mind mapping helps students study the material first, summarize it, then present it in the form of a map or graph so that it is easier to understand. The result of mind mapping is a mind map.

Some of the learning methods mentioned above are more or less used in the learning process. To get optimal learning results, teachers must choose to use appropriate learning methods to make students play an active and enjoyable role in the learning process.

LEARNING OUTCOMES

1. Understanding Learning Outcomes

Learning outcomes are the achievements or developments of students after carrying out the learning process. In general, learning outcomes are changes that occur in individuals which can be seen in the form of knowledge, skills and attitudes as a result of learning experiences, where these learning outcomes are closely related to educational goals, which develop the learning process and assist in curriculum development. According to Benjamin S. Bloom (1956), what was then called Bloom's taxonomy theory, which was later revised by Krathwohl and experts from the cognitivism school (2021), which is known as Bloom's revised taxonomy, has 3 domains, namely cognitive, affective and psychomotor.

According to Endang Sri Wahyuni (2020) learning outcomes are results that have been achieved by a person, after carrying out learning activities which include cognitive, affective and psychomotor aspects which can be expressed with symbols, numbers, letters or sentences that can reflect the quality of the individual's activities in learning process.

2. The aspects contained in the learning outcomes are:

a.Cognitive aspect, namely students' knowledge and understanding of the material presented, which concerns students' intellectual abilities in thinking, knowing and solving a problem, for example it can be measured through exams, quizzes or discussions.

b.Affective aspects, namely aspects that include attitudes, values and emotions that develop and appear in student learning outcomes, which can be seen in the form of behavior such as attention, discipline, motivation to learn and good social relationships.

c.Psychomotor aspects, namely aspects related to physical skills, for example students being able to coordinate and having strength in learning, and also practical abilities that students acquire such as technical skills and artistic skills.

3. Principles of Learning Outcomes

The principles of learning outcomes are guidelines or basics that must be considered in the learning process to ensure that the results achieved are effective and meaningful. The following are several principles of learning outcomes that have been summarized by researchers from the explanations of experts:

1. Measurability: Learning outcomes must be able to be measured and evaluated objectively. This allows teaching and learning to be tailored based on each learner's achievements.
2. Relevance: The material taught must be relevant to real life and the needs of students. Good learning outcomes will help students apply knowledge and skills in everyday situations.
3. Student-oriented: The learning process must pay attention to the characteristics, needs and learning styles of students. This will increase students' motivation and involvement in the learning process.

4. Progressive: Learning outcomes should reflect continuous progress. Learning must be structured in stages, from simple to complex, so that students can develop a deep understanding.
5. Active Involvement: students must be actively involved in the learning process, either through discussion, practice or exploration. Active involvement encourages the achievement of better learning outcomes.
6. Flexibility: The learning process must be flexible and can be adapted to the needs and conditions of students. This includes variations in teaching and assessment methods.
7. Linkages between Disciplines: Learning outcomes should show the links between various disciplines, helping students see the connections between the knowledge they learn.
8. Feedback: Providing constructive feedback to learners is essential to improve their understanding and skills. Feedback helps learners understand areas that need improvement.
9. Development of Attitudes and Values: Learning outcomes are not only related to cognitive aspects, but also include the development of positive attitudes, values and character.

DIFFERENTIATION LEARNING IN PRIMARY SCHOOL

1. Understanding Differentiation

"According to Tomlinson in (Suwartiningsih, 2021) differentiated learning is creating a diverse class and aims to provide opportunities for students to improve learning outcomes, so that students can learn effectively." Maryam (2021) explains "differentiated learning is learning in which educators can openly facilitate all the differences that students have in accordance with the students' needs to be achieved". Meanwhile, according to (Herwina, 2021) "differentiated learning is an effort to adapt learning in the classroom to meet the needs of each individual". Differentiated learning can also be interpreted as adjusting students' interests, learning profiles and learning readiness. So that learning in the classroom is structured according to the students' interests and learning profiles.

Through this differentiated learning, educators are expected to be able to provide a positive response to the initiatives of each student. This differentiated learning also includes student-centered learning. In this activity, students are asked to be active in learning activities according to their abilities. Educators as facilitators and leaders who can drive the course of learning activities and organize and even supervise all activities in the school.

According to Hadi et al., (2022), there are three strategies that teachers can use, firstly, content differentiation, meaning that the material is carried out in accordance with students' readiness, interests and learning profiles. Second, process differentiation, which means it is carried out through the use of tiered activities in developing varied activities which are of course tailored to readiness, interests and learning profiles. Third, product differentiation means that it can be done by giving students choices on how to express the learning they want. In accordance with students' readiness, interests and learning profiles.

Based on this description, it can be concluded that there are 4 types of differentiation learning strategies. Content differentiation learning is the content/material that will be taught. Process differentiation learning is a meaningful activity carried out by students in the classroom. Product differentiation learning takes the form of creating a work that is carried out at the end and which can be used to measure learning outcomes in accordance with the learning objectives. Meanwhile, differentiated learning environment means that educators can design and manage classes so that they contain meaningful material and activities, so that students do not feel bored.

METHODS

The research used in this research is classroom action research (PTK) or another name, Classroom Action Research, which is a research model developed in class according to the needs or problems in that class. The type of research used by researchers is participatory in nature, carried out by the researchers themselves and students. In accordance with research, this research has research stages in the form of cycles. Related to classroom action research (PTK), namely action and classroom research. First, research is a problem solving process that is carried out systematically, empirically and under control. Second, action can be interpreted as the perpetrator of course carried out by the researcher, namely the teacher. Third, class shows the location of the process.

The research design that will be used in the research is the Kemmis and Taggart model. The reason the researcher chose the Kemmis and Mc Taggart model in this research was because this model was considered quite effective by the researcher, in one cycle there is planning, action, observation and reflection. Through these four activities, if an action has been carried out, the researcher can immediately observe and reflect to see the results of the action. The observation and reflection activities aim to enable researchers to correct existing deficiencies so that they do not occur in the next cycle. Planning, action, observation and reflection activities continue to be carried out until the cycle is completed and the problems in the class can be corrected. The following is a visualization of Kemmis and Mc's research model. Tagart.

This research is classroom action research (PTK) which was carried out in two cycles. Each cycle consists of four stages, namely:

a. Planning

Before conducting classroom action research, the researcher must prepare a plan first. The indicators that must be considered in the plan are what should be researched, why researched, when researched, where should be researched, who should be researched and what results will be obtained by the researcher and the students.

In this stage the researcher also designs and plans learning scenarios that will be carried out in the Action stage. And the scenarios created must be detailed in writing and not made up.

b. Action

At this stage the researcher began to implement the learning scenarios that had been previously designed at the planning stage.

c. Observation

This observation stage cannot be separated from the action stage being carried out, so both take place directly at the same time. The researcher made observations and recorded all the things that were necessary and happened during the implementation of the action.

d. Evaluation

At this stage it cannot be separated from the actions being carried out. After taking action or providing learning about the material that has been determined, the researcher provides an evaluation

e. Reflection

What is discussed at this stage is to be able to thoroughly review or re-state the actions that have been taken, based on the data that has been collected, then evaluate to improve the next actions. Reflection in PTK includes analysis and assessment of observation results.

CYCLE I

a.Planning

In this planning, the researcher prepares the materials that will be used when carrying out the research. The teacher acts as a researcher in the classroom as well as an observer to observe when implementing the lecture method. The activities carried out in this planning are: (1) planning the implementation of learning with teaching modules according to the material in the implementation

of cycle 1, (2) designing materials related to curved sided shapes (tubes) (3) Compiling learning activity observation sheets students and teacher performance. (4) Develop instruments to be used to assess student performance.

b.Action

In this action, it is adapted to the learning process stage. At the first meeting, the material on curved sided space shapes, learning is carried out for 40 minutes (1 JP), the teacher will provide the material orally without visualization media, then give pre-test questions based on the results of the explanation in general.

c.Observation

In this observation, it was carried out together with teaching activities carried out by researchers to observe the implementation of the lecture learning model and see student learning outcomes at the end of the lesson which were assessed through learning outcomes tests.

d.Reflection

At this stage the researcher knows the shortcomings and weaknesses as well as the obstacles that arise in each cycle that has been carried out so that the results of the reflection are used to consider when designing actions for the next cycle.

CYCLE II

a.Planning

At this planning stage, the researcher prepares the materials that will be used when carrying out the research. The activities carried out in this planning are: (1) planning the implementation of learning with teaching modules according to material on curved sided shapes (tubes), (2) designing materials related to tube shapes, preparing Content Differentiation (in visual form power point) (3) Prepare observation sheets of student learning activities and teacher performance. (4) Develop instruments to be used to assess student performance.

b.Action

During the action learning process, the researcher as a teacher shows content differentiation in the form of a power point on the tube building material for 15 minutes, the next 15 minutes are used for assessment by giving sheets containing questions that have been prepared by the researcher, then they answer questions that have been prepared for assessment.

c.Observation

This observation was carried out together with teaching activities carried out by researchers to observe the implementation of learning using Content Differentiation and see student learning outcomes in class.

d.Reflection

The results of the tests and observations provided are used as a basis for drawing conclusions. Have the activities carried out been successful? If not, in cycle II there are still many students experiencing learning difficulties and making mistakes in solving questions. Then the next cycle will be planned. However, if the learning success indicators are met, there is no need to go to the next cycle.

Data is true and real information or material about something that can be used as a basis for analysis and conclusions. The tools used to collect data in this research are tests and observations.

1. Observation

Observation techniques are techniques where researchers observe events, movements or processes. Observation techniques are used because the research is related to human behavior, work processes, natural phenomena and there are not too many objects observed.
The researcher conducted direct observations on students at SDN Sememi II Surabaya, to find out about problems during differentiation learning in class.
2. Documentation
Documentation is a record of events that have been carried out. Documentation can be in the form of writing, drawings or someone's monumental works. So the data collection technique with documentation is the collection of data obtained from taking documents.
3. Test
This research is research that is intended to evaluate what is carried out by teachers at the end of each research presentation. By comparing the evaluation of cycle I with cycle II given during the research action.
This research aims to see whether the use of differentiated learning is effective to improve student learning outcomes.

Research Instruments
1. Observation
Observation is an observational activity carried out by researchers to obtain information about the subject to be researched. In this study, researchers made direct observations in the classroom when the teacher was carrying out teaching and learning activities. (Attached)
2. Research Documentation
Instrument documentation refers to the collection and storage of tools or materials used in a research or activity. In this research, tube power points are used as content differentiation. (Attached)
3. Test
A test is the provision of a series of stimuli to find out how far a person understands something. In this study, researchers used a written test. The written test given is in the form of essay questions that correspond to the material being explained or studied. (Attached)
G. Data Analysis Techniques
To find out whether this content differentiation improves students' mathematics learning outcomes or not, data analysis needs to be carried out. This analysis was carried out using percentages and data quality. This analysis was carried out to determine the average value of students using the following formula:
1. Observation
The researcher made an observation sheet and peer observation to carry out data analysis before implementing content differentiation, so that the researcher knows whether research using content differentiation with different levels of student ability is able to improve students' individual learning outcomes.
2. Assessment of results and tests
The researcher used the assessment of the test results as a basis for obtaining the average score obtained by each student in order to calculate the percentage of research success in implementing this content differentiation. The researcher added up the scores obtained by the students, then divided them by the number of students in the class to obtain the average score. The average value is obtained using the formula:

3. Analyze the Success of Actions

There are two categories of learning completeness, namely individual and classical. Based on the instructions for implementing teaching and learning, researchers consider that the application of content differentiation in the tube building material is said to be successful in improving student learning outcomes if students are able to solve problems and meet learning completeness of at least 90%. Based on the formula above, if learning completeness in the classroom has reached 90% then learning completeness is achieved. So it can be concluded that data analysis was carried out as a basis for implementing the following cycle and needs to be continued in cycle II. The criteria for the level of student learning sincerity are in the form of percent (%)

RESULTS

RESEARCH RESULTS

1. Observation Results (pre-cycle)

Researchers used observation instruments and pre-test questions in the pre-cycle, the following results were obtained:

TABLE 1. *Observation Data (Pre-Test)*

Aspect	Indicator	*f*	%	Mean
A	Students Complete	5	33.30	58.95
B	Students Have Not Completed	15	66.70	

In pre-cycle activities, researchers carry out observations to assess the level of ability of each student which will later become the basis for implementing differentiated learning. The explanation from the table above is that each individual student gets a value from observations carried out by the researcher as observer 1 and his colleagues as observers. 2, by adding up the results of the observation assessments, an average score of 58.95 was obtained, a success rate of 33.30%, with details of 15 students not being able and 5 students being capable in learning to construct the curved side of a tube.

2. Cycle 1 Results

In the learning activities of each cycle, the flow or stages are 4 CAR-based learning activities, namely planning, action, observation and reflection. The following are the learning activities for cycle I which will be held on Saturday, January 11 2024

TABLE 2. *Cycle I Result Data*

Aspect	Indicator	*f*	%	Mean
A	Students Complete	11	55.0	64.6
B	Students Have Not Completed	9	45.0	

In Cycle I activities, the researcher carried out observations to determine the level of success in learning. The explanation from the table above is that each individual student gets a score from observations carried out by the researcher as observer 1 and colleagues as observer 2, and the results of the test as an essay for each student. The ability level has been grouped, the test results obtained an average score of 64.6, a success rate of 55%, with details of 9 students not being able and 11 students being capable in learning to construct the curved side of a tube. So in cycle 1 it can be concluded that the application of differentiation learning can improve students' learning outcomes in the tube building material.

3. Results of Cycle II

Actions in cycle II were carried out in 1 meeting with a time allocation of 30 minutes, namely on Friday, January 12 2024. In cycle II, the steps taken included planning, implementation, observation and reflection. A brief overview of learning activities in cycle II can be explained as follows:

TABLE 2. *Cycle II Result Data*

Aspect	Indicator	*f*	%	Mean
A	Students Complete	19	95.0	84
B	Students Have Not Completed	2	5.0	

In Cycle II activities, the level of success in learning tube material has increased with the presentation of learning resources (content differentiation) which are adapted to the needs of students in low, medium and high group levels. The explanation from the table above is that each individual student gets a value from observation. which was carried out by researchers as observer 1 and colleagues as observer 2, and the results of essay tests for each student who had been grouped by their ability level, the test results obtained an average score of 84, a success rate of 95%, with details of 1 student not being able and 19 students were capable of learning to shape the curved side of a tube. So in cycle II it can be concluded that the application of content differentiation learning which is presented according to the individual needs of students can improve the learning outcomes of each student in the tube building material.

DISCUSSION

Application of differentiation learning. In accordance with previous research points, namely the lack of student learning outcomes, it is known that there are various problems in learning material about geometric figures on the curved sides of tubes, including students not being able to determine the nets of tubes, calculate the surface area and calculate the volume of tubes. Learning activities are felt by students to be less interesting, enjoyable and confusing, thus making them feel bored and careless because learning is carried out using methods such as lectures, and there is a lack of learning resources presented so that in this research the researcher applies content differentiation by presenting various learning resources according to by grouping students' ability levels, students with low comprehension ability can be presented with content differentiation using visual, audio video, kinesthetic and low-weighted tests, students with medium comprehension ability can be presented with content differentiation using audio video, and kinesthetic and tests that have a medium weight, students with high comprehension ability can be presented with visuals and audio videos and tests that have a high weight.

The results of research in content differentiation learning, namely with the visual media of books, audio video PowerPoint and kinesthetic forms to improve student learning outcomes. This research was carried out in two cycles with the aim of improving and achieving the expected targets.

The research results were obtained from the formula

$$\mathrm{R} = \frac{\sum \mathrm{n}}{n}$$

Source: Sugiyono, 2017

To calculate the percentage of learning completeness, the following formula is used:

$$P = \frac{n}{N} \times 100\ \%$$

Source: Sugiyono, 2017

CONCLUSION

Based on the results of classroom action research and discussions that have been carried out, it can be described and concluded that learning with content differentiation is able to improve student learning outcomes in the Mathematics subject material Building Tube Rooms as proven by:
1. In its application, differentiated learning is very helpful in learning, because students receive comprehensive learning according to the student's level of ability and needs.
2. Based on the results of classroom action research carried out in two cycles, each cycle consisting of two meetings, it can be concluded that the application of Powerpoint Content Differentiation can improve student learning outcomes in the Mathematics subject Building Tube Rooms in class V at SDN Sememi II. This is shown by the number of students whose scores increased from each cycle. In the first cycle of the first meeting, the percentage of completion was 55% or 11 students out of 20 students already understood the material on building the curved sides of tubes, with an average score of 64.60. Then in cycle II of the second meeting, the percentage of completion results increased to 95% or 19 students out of 20 students who already understood the material on building space on the curved sides of tubes with an average score of 84.
3. Based on ongoing research, student learning activities show that each cycle experiences changes, the student learning process reaches 95% of students who are more active in learning. This can be seen from learning that runs smoothly as expected so that almost all indicators appear to have improved results.

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