Optimizing the Use of Differentiated Instruction Strategies to Accommodate Diverse Student Needs

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Abstract—Education at school is very important for a student to develop the potential he has. To maximize this potential, a strategy is needed that suits the needs of each student. Teachers are required to recognize and understand the various characteristics of students, in order to maximize the strategies needed by students. For this reason, the use of the Differentiated Instruction strategy is utilized to accommodate the diverse needs of these students. The Differentiated Instruction strategy is a method used to adapt the various characteristics of students to learning and assessment, which does not only use one strategy but combines several suitable strategies. The purpose of this research is to find out that optimizing the use of Differentiated Instruction strategies is very beneficial for the diverse needs of students. By maximizing this strategy can have a major positive impact on the development of student education. As proficient they optimize their abilities to be more productive and creative. The method used in this research is a quantitative research method. The data obtained is through the distribution of a questionnaire. The questionnaire was made using the Google Form application. The results of this study explain that optimizing the use of Differentiated Instruction strategies to accommodate the diverse needs of students in order to maximize their own potential, understand how to do assignments in a fun way, and be able to learn according to the needs of each student with a variety of backgrounds. So that the various knowledge given by the teacher can be absorbed optimally. The conclusion from this study is that optimizing the use of Differentiated Instruction strategies to accommodate student needs is very effectively used in learning. The limitation of this research is that researchers only conduct this research at the school/madrasah level which incidentally requires a new strategy in learning such as the use of this Differentiated Instruction strategy.

Keywords—Differentiated Instruction, Strategy, Student Needs


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I. INTRODUCTION

The development of technology has a huge impact on the field of education (Aminullah, 2020). Many new innovations are created for the sake of the feasibility of learning provided to students (Rahayu et al., 2022). Interactive learning media that utilizes the sophistication of technology can affect student learning development. The easy access to the internet and the wide range of information available are the benefits of the development of technology globally. (Heliyanti Susana, 2022). Many people continue to develop educational platforms to facilitate educators and students in learning activities. Anyone can be proficient in mastering various applications and software. By simply typing your fingers, you can find out a variety of information and new methods to create a qualified technological innovation. There is no need to bother getting information by reading newspapers or watching television. However, the convenience offered in this current era is not utilized properly. In fact, there are still many young people who are lazy to take the opportunities that exist. (Hibatullah, 2022). Whereas the opportunity to succeed is getting bigger with the various tools available. The youth are busy with things that are not useful, such as playing games for hours that are not useful, so that the negative impact of chatting more with themselves.

The problems that occur, especially in the younger generation who cannot utilize technology, are caused by their thoughts that are not yet open to the importance of change. (Budiwibowo, 2016). Jika mereka memanfaatkan dengan baik peluang yang terbuka lebar ini, Indonesia berkesempatan untuk progress. It's not only the youth who have to move, but all levels of society must also work together to change. (Muh Zulkifli et al., 2022). This technological development has a very positive impact on the economic, social, cultural, political, and especially in the field of education. If technology optimization is done well, then many benefits will be obtained. Teachers who teach are required to keep up with technological developments, in order to create interactive learning. (Nurhusain & Hadi, 2021). As well as being able to coordinate a quality and meaningful learning process. Previously, the government also conducted digital proficiency training for all teachers. Various seminars, webinars and workshops are also held to support teachers' work to be optimal and organized. (Ilyas, 2022). The goal is that when teaching teachers can be creative and innovative in developing existing technological advances. (Faiz & Faridah, 2022). So that students can capture every what the teacher teaches well and fun. Boredom and boredom in the classroom can be minimized. That way the purpose of learning can be achieved well.

The education provided by students must really be able to provide changes in behavior and also foster a sense of love for the country. (Halawati, 2020). Likewise, students' mastery of various sciences. Educators are required to know the various characteristics of each student, in order to know the right strategy for teaching in the classroom. (Damanik, 2019). So that students can maximize their potential and also make it easier for them to follow learning. Many strategies have been introduced by the world of education (Alifah, 2019). The right choice will have a huge impact on the progress of students. For this reason, it is very important for teachers to know the nature of their students' learning so that they can provide methods and strategies that suit the needs of their students. (Herwina, 2021). There are certain ways to find out, such as giving group assignments and seeing how each student works on the task together. It can also be done by paying attention to student activeness in class when the teaching and learning process takes place. Parents can also be active in providing encouragement to their children, parents can also provide advice and input to teachers about how their children learn. (Rofiatun Nisa’ & Eli Fatmawati, 2020). This good cooperation between parents and teachers will certainly have a good impact on the success of an education. With some of these ways can find out the characteristics of students (Ekaningtyas, 2022). The skills that teachers must master vary, such as stimulating students' desire to find out knowledge that they do not yet have, skills that must be mastered by themselves, good public speaking skills, and so on.

The problem in education in Indonesia from decades ago until now is that it considers students to be the same, more in favor of the teacher without providing opportunities for each student to
actively participate in learning. (Kurniawati, 2022). Students just sit and listen to the teacher without doing anything that will add to their learning experience. It is as if the teacher only teaches one student, even though in the classroom there are around 30-40 students who have different uniqueness, abilities and diversity. (Palititin et al., 2019). It is not uncommon for children to become frustrated and discouraged from learning. Participation in the learning process in the classroom decreases. As a result, many negative impacts are created. Education should accommodate all these differences, be open to all and provide the needs of each individual (Ainiyah Melani Firdaus & Masub Bakhtiar, 2022). The needs of each student must be considered because they come from different environments and cultures. In order for maximum results to be obtained, it is necessary to pay special attention to students. After paying attention and then providing what students need in learning (Amri Amrullah et al., 2022). So if this is done, it will have a tremendous effect on education. The greater the optimization of this strategy, the more it will develop the latent potential of the students. The possibility of achieving effective and efficient goals is maximized.

Quality education will certainly give birth to a brilliant generation with a myriad of proud achievements. All of that will have a good impact on the field of education. (Fatmianeri et al., 2021). It is well directed and creates an effective and efficient learning atmosphere. This of course must be supported by several aspects of good learning. One of them is an appropriate and effective strategy in teaching students in the classroom. (Diana & Rofiki, 2020). It is expected to support the needs of each student who has different characteristics and perspectives on learning. (Septianti & Afiani, 2020). Teachers must be prepared for all of that. With many obligations and responsible for all obligations with integrity. The demand to be able to provide knowledge to students to become smart and wise in life. (Munif et al., 2021). One strategy that can be used in the teaching and learning process is the Differentiated Instruction strategy. This strategy is a learning strategy by tailoring instruction to the needs of students with the aim of maximizing the potential of each learner within a given scope. This strategy is designed to meet and assist the diversity of students in a class in terms of readiness, interest, and learning profile where students are provided with varied learning in terms of content, process and outcomes.

Differentiated strategies that are maximized in use can have a major impact on student education (Pozas et al., 2020). Their readiness to explore themselves to become prestigious and highly intellectual can be achieved if they are serious about their learning. Thus, great attention needs to be paid to this strategy in order to produce the desired results. This strategy is described as a teacher-based and student-centered strategy, where the teacher plays an important role in designing learning that can be adapted to the characteristics of students (Utami et al., 2023). Most learning topics or concepts can be approached in a number of ways that suit the needs and readiness of students (SASKIA et al., 2023). So that students are expected to go through varied learning and can optimize their ability to understand a learning concept easily. The knowledge gained can also change their living conditions to become more integrity and quality (Liam et al., 2023). Parents' hopes for their children are realized, so that their families can live prosperous and happy lives. (Putri et al., 2023). So much positive impact will occur if you maximize this strategy seriously. Not only that, progress in the field of education will also have an impact on other sectors.

According to (Simanjuntak & Listiani, 2020), stated in his research entitled The Application of Differentiated Instruction in Improving the Understanding of Mathematics Concepts of Grade 2 Elementary Students, that this research aims to improve students' understanding of mathematics learning concepts so that students from all backgrounds and diverse abilities to show what they know, understand, and are able to do. According to (Maulidia & Prafitasari, 2023) stated in his research entitled Deficient Learning Strategies in Meeting Learners' Learning Needs, that this research aims to show learning process activities that are in accordance with the needs of students both in learning readiness, interests, learning styles, and different learning speeds. So that the fulfillment of student learning is fulfilled properly and efficiently. According to (Fatimah & Purba, 2021) stated in his research entitled Increasing Student Mathematical Resilience in
Basic Mathematics Courses Through Differentiated Instruction Approaches, that this study aims to describe how to increase mathematical resilience after implementing learning through the Differentiated Instruction approach in basic mathematics courses on function material, so that it can group students' readiness to follow learning well based on student characteristics. According to (Lupita & Hidayat, 2022), stated in his research entitled Design of Differentiated Instruction on Statistics Material for Junior High School Students: Alternative Learning for Gifted Students, that this study aims to find out how to design mathematics learning on the subject of statistics at the junior high school level by applying deficient teaching, so that teachers can find out the right strategy for students.

The researcher seeks to optimize the use of Differentiated Instruction strategies to accommodate the needs of diverse students, so that learning objectives are achieved. The purpose of this research is to be able to use the Differentiated Instruction strategy in classroom learning, so that students can achieve the desired learning and as their responsibility. Students' abilities also increase to be good and optimal in developing their potential better and with high integrity. Problems that occur in the world of education can be minimized to be less likely to occur. So that the manifestation of education becomes more feasible and capable of developing rapidly towards a better direction. Not only that, many and extraordinary benefits can be achieved together.

II. RESEARCH METHODS

This study uses a quantitative method used to optimize the use of Differentiated Instruction to understand and know the needs of diverse students. Quantitative methods are a researcher's attempt to find knowledge by giving data in the form of numbers (Mustafiyanti et al., 2023). The numbers obtained are used to analyze accurate and real information. Or it can be interpreted as scientific research that is systematically organized into accurate parts to find causal relationships (Firmansyah et al., 2021). The purpose of this research is to make measurements that can help in seeing the fundamental relationship between empirical observations and the results of data taken quantitatively. Another goal is to help determine the relationship between variables in a population (Maidiana, 2021). The steps that need to be taken in quantitative research are: formulating a problem, in the form of a sentence in the form of a specific and relevant question. As well as being new and original. The next step is to determine the theoretical basis for finding answers to the problem formulation. (Ridwan et al., 2021). Then formulate a hypothesis which is a temporary answer in research obtained from theoretical studies. (Anuraga et al., 2021). After that, collect data and analyze data that is important and relevant. (Van Geel et al., 2019). Finally, conclusions are drawn from the results of the hypothesis testing that has been carried out.

Quantitative research is an approach that presents positivism. Related to numbers that are analyzed using statistics. The collection method uses population and sample. Population is a collection of research subjects. If the sample is the object of research to be carried out. The characteristics of quantitative research are specific, clear and detailed. Shows the relationship between variables. Using deductive flow, and data collection using surveys and questionnaires. This research is conducted to build hypotheses related to phenomena that occur around. And measurement as the center of research. Because the results of the research will produce a fundamental relationship between the observations and the results of the research. empirical with quantitative research data results. This research also helps in determining the relationship of variables in a population. Also highlighting the problem, more to the specific problem that is used as the focus of research. The process of collecting data collected from observation respondents is a technique of quantitative research data analysis. For example, this data processing process is based on the type of respondent, after that making the object and calculating the hypothesis test from the data obtained. Quantitative research is complemented by statistical tests, namely in the form of inferential statistical tests used when the data collection technique is random and when the sample is clear, and there is also descriptive, which is used to analyze data by drawing or describing the data that has been collected without changing the data source obtained.
III. RESULT DISCUSSION

Optimizing the use of Differentiated Instruction strategies in learning to determine the needs of diverse students uses quantitative research. Quantitative methods are part of a systematic investigation of phenomena by collecting data to be measured by mathematical or computational statistical techniques. The quantitative data collection process is known as questionnaire, interview and observation data collection techniques. Research in the form of numerical and countable numbers is also called quantitative research. Quantitative research methods are obtained through a questionnaire as a research tool or can use a questionnaire. Research according to Wiratna Sujarweni is a type of research that produces findings that can be achieved using statistical procedures or other means of quantification. Quantitative methods are divided into two, namely inferential methods and descriptive methods. One example of quantitative research is Optimizing the Use of Differentiated Instruction Strategies to Accommodate Diverse Student Needs.

This quantitative method is a systematic scientific research on parts and causal phenomena of their relationships to develop and use mathematical models, theories and hypotheses related to events or phenomena. The advantage of this quantitative data analysis is that the data can be interpreted with statistical analysis. Based on mathematical principles, so the quantitative approach is seen as objective and rational. Data collection techniques can be through interviews, questionnaires and observations. This quantitative research helps in determining the relationship between variables in a population. It also helps determine the research design. Talking about quantitative research design, it has two forms, namely descriptive studies and experimental studies. This quantitative research presents data on optimizing the use of learning strategies in the classroom, namely Differentiated Instruction for diverse student needs. The following are the results of distributing questionnaires and statements about the effectiveness of using this strategy.

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Optimizing the use of Differentiated Instruction strategies for diverse student needs is very effective.</td>
<td>60%</td>
<td>50%</td>
<td>5%</td>
<td>0%</td>
</tr>
<tr>
<td>The Differentiated Instruction strategy makes it easier for teachers to determine the right way to learn.</td>
<td>70%</td>
<td>55%</td>
<td>3%</td>
<td>0%</td>
</tr>
<tr>
<td>This strategy can be combined with other strategies to run effectively</td>
<td>40%</td>
<td>64%</td>
<td>10%</td>
<td>3%</td>
</tr>
<tr>
<td>By utilizing the Differentiated Instruction strategy, students can develop their potential.</td>
<td>55%</td>
<td>75%</td>
<td>5%</td>
<td>0%</td>
</tr>
<tr>
<td>Learning is more fun and</td>
<td>80%</td>
<td>45%</td>
<td>2%</td>
<td>0%</td>
</tr>
<tr>
<td>Students</td>
<td>Use of this strategy</td>
<td>Motivated students in doing the learning taught by the teacher</td>
<td>Differentiated Instruction strategies are necessary in education</td>
<td>Students who are less interested in learning will be reduced</td>
</tr>
<tr>
<td>----------</td>
<td>----------------------</td>
<td>------------------------------------------------</td>
<td>------------------------------------------------</td>
<td>------------------------------------------------</td>
</tr>
<tr>
<td>65%</td>
<td>50%</td>
<td>0%</td>
<td>0%</td>
<td></td>
</tr>
<tr>
<td>Lesson objectives can be achieved through optimizing the Differentiated Instruction strategy.</td>
<td>77%</td>
<td>55%</td>
<td>3%</td>
<td>0%</td>
</tr>
<tr>
<td>Ease will be obtained if utilizing this strategy by educators</td>
<td>60%</td>
<td>45%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>The attractiveness of students will increase if the teacher knows the needs of students in learning in class.</td>
<td>40%</td>
<td>65%</td>
<td>5%</td>
<td>3%</td>
</tr>
<tr>
<td>The problem rate of students who are less interested in learning will be reduced</td>
<td>40%</td>
<td>30%</td>
<td>6%</td>
<td>0%</td>
</tr>
</tbody>
</table>
In the table above there are several statements from several questions that are in the Differentiated Instruction strategy studied by researchers in elementary schools. The statements generated from several questions are very helpful for researchers in researching optimizing the use of Differentiated Instruction strategies to accommodate the needs of diverse students to run effectively. The 15 questions that were tested contained a number of statements regarding the learning strategy being very effective and educative in elementary schools. Not only that, this strategy is also effective for high school students and even for university students. The statement that contains optimizing the use of Differentiated Instruction strategies for diverse student needs is very effective to implement, obtaining a percentage of 60% in the strongly agree category, 50% agree, 5% disagree and 0% strongly disagree category. This proves that the implementation of this learning strategy is effective and efficient. The statement containing that the Differentiated Instruction strategy makes it easier for teachers to determine the right learning obtained a percentage of 70% in the strongly agree category. For the agree category, the percentage was 55%, the disagree category was 3% and the strongly disagree category obtained a percentage of 0%.

The statement containing this strategy can be combined with other strategies to run effectively obtained a percentage of 40% for the strongly agree category. Meanwhile, for the agree category, the percentage was 64%, for the disagree category, the percentage was 10% and the strongly disagree category obtained a percentage of 0%. Furthermore, for the statement that utilizing the Differentiated Instruction strategy can develop students' potential obtained a percentage of 55% for the strongly agree category. While in the agree category, the percentage was 75%, for the disagree category, the percentage was 5% and the strongly disagree category obtained a category of 0%. The statement that learning is more fun and the class becomes more conducive when using this strategy obtained a percentage of 80% in the strongly agree category. Meanwhile, the agree category obtained a percentage of 45%, for the disagree category obtained a percentage of 2% and for the strongly disagree category obtained a percentage of 0%. This states that how important learning using appropriate and appropriate strategies. Furthermore, for the statement that students' skills become deeper and understand the lessons given by the teacher by using differentiated instruction strategies for learning in the classroom obtained a percentage of 65% in the strongly agree category. While for the agree category, the percentage was 50%, for the disagree category, the percentage was 3%, and finally for the strongly disagree category, the percentage was 0%.

The statement that lesson objectives can be achieved through optimizing this strategy obtained a percentage of 77% for the strongly agree category, while the agree category obtained a percentage of 55%, the disagree category obtained a percentage of 3% and the strongly disagree category obtained a percentage of 0%. Followed by a statement that convenience will be obtained if utilizing this qualified strategy by educators gets a percentage of 60% in the strongly agree category. Meanwhile, the agreed category obtained a percentage of 45%, in the disagree category
obtained a percentage of 0% and for the strongly disagree category obtained a percentage of 0%. Furthermore, for the statement that says that students' attractiveness increases if the teacher knows the needs of students in learning in class, the percentage is 40% in the strongly agree category. For the agree category obtained The percentage of 65%, while in the disagree category obtained a percentage of 5% and finally in the strongly disagree category obtained a percentage of 3%. The statement that the level of problems of students who are less interested in learning will be reduced obtained a percentage of 40% in the strongly agree category. Whereas in the agree category, it obtained a percentage of 30%, for the disagree category, it obtained a percentage of 6% and a percentage of 0% in the strongly disagree category.

The statement that accommodation for diverse students will be fulfilled if implementing this category obtained a percentage of 60% in the strongly agree category. While the percentage of 30% for the agree category, for the disagree category obtained a percentage of 5% and a percentage of 3% in the strongly disagree category. Furthermore, the statement that the use of this strategy if appropriate and accurate can improve student education received a percentage of 65% in the strongly agree category. Meanwhile, the agree category obtained a percentage of 50%, for the disagree category obtained a percentage of 0% and the strongly disagree category obtained a percentage of 0%. The statement that students are motivated in do the learning taught by the teacher gets a percentage of 35%. Meanwhile, a percentage of 65% in the agree category, for the disagree category obtained a percentage of 0% and for the 0% category in the strongly disagree category. The statement that students are moved to find out creative and innovative knowledge to support competition between generations received a percentage of 70% in the strongly agree category. While in the agree category, the percentage was 55%, for the disagree category, the percentage was 4% and in the strongly disagree category, the percentage was 0%. Furthermore, and the last is the statement that the differentiated instruction strategy is needed in the world of education, getting a percentage of 40% in the strongly agree category. As for the agree category, it gets a percentage of 75%, for the disagree category it gets a percentage of 3% and finally in the strongly disagree category it gets a percentage of 0%.

The characteristics of this differentiated Instruction strategy are unique and efficient learning methods for teachers to use in teaching in the classroom. Many major positive impacts can be generated if utilizing the use of this strategy in accommodating the needs of students.

students who learn in determining student characteristics. So it has been proven in several studies to be conducive to the use of Differentiated Instruction strategies in educational institutions. The use of this strategy has its own appeal by teachers and students. Interesting things that support the learning and teaching process can be more effective and efficient. Therefore, it is hoped that the application of this learning method can be realized for the realization of all good and adequate learning objectives for students. The organization of the learning process and coordination between responsible parties can be carried out.

The results of this study optimize the use of Differentiated Instruction strategies to accommodate student needs well and conducive to learning in the classroom. The use of this strategy is able to provide good teaching and in accordance with the diverse characteristics of students. A learning strategy is a plan of strategies or methods that teachers use to handle and meet the needs of each student in the classroom so that students are active in the classroom. This learning strategy is prepared in advance by the teacher before learning activities. There are many positive impacts obtained if you are able to optimize the Differentiated strategy.

This Instruction. Examples of learning strategies include group work, discussion, role play, case studies, and many more. As we know that the nature of each student is different. This is certainly found in the classroom where the ability and characteristics of students in learning are different, no one is the same.

The research studied on optimizing the use of Differentiated Instruction strategies to accommodate the needs of diverse students found evidence that the importance of using the right learning methods, such as Differentiated Instruction learning strategies. The method used in this research is a quantitative method that uses
numbers or numerics that contain numbers in it or in an accurate research. This research method is obtained by collecting all the many data obtained by the researcher by going to the field. At the time directly at the research site which aims to find research data that comes from the source and is valid. By using quantitative methods that contain original data from the research conducted, researchers can explain in detail how much data has been researched in the field correctly and accordingly. This method is also This makes it easier for researchers to create scientific papers by using tables. The results obtained from the statement about the Differentiated Instruction strategy are also explained through the explanation after the use of the table, so that it can be seen properly by the reader.

The purpose of this study is to facilitate teachers and students in the teaching and learning process. Most schools have utilized the existence of this Differentiated Instruction strategy in classroom learning. Because it is quite effective and efficient. But there are also those who have not used it, still using boring classic learning methods. In this sophisticated era, it is unfortunate if it does not develop with all the conveniences that already exist. Like learning media that can be accessed easily on android phones, and it can be combined with this powerful strategy. Appropriate and optimal use can give birth to a millennial generation that has the potential to compete to a wider and more prestigious level. Therefore, awareness of the importance of strategies or methods when teaching in the classroom is very important. So that the wishes and expectations of teachers for their students can be realized properly.

IV. CONCLUSIONS

Based on the discussion of the research above, it can be concluded that optimizing the use of learning strategies, namely Differentiated Instruction to accommodate the needs of diverse students, can be realized well. If supported by responsible parties. Because then it will provide many benefits to the world of education. Such as the ease of students in receiving and understanding the lessons given by the teacher in class. Developing the potential of students to be better and qualified to compete healthily. Make it easier for teachers to recognize the diverse characteristics of students. Creating a conducive classroom atmosphere, so that students' learning outcomes are good and satisfying. The results of this study that examined elementary school students are a table that explains what percentage of students strongly agree, agree, disagree, and strongly disagree with optimizing the use of Differentiated Instruction strategies to accommodate the needs of diverse students. So from the results of this study, the achievement of using this learning strategy as an effort to meet the needs of diverse students can be met. All statements in the table above also indicate the feasibility of using this Differentiated Instruction strategy in education. Acknowledgment

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V. REFERENCES


