**Effectiveness of Differentiation Learning in Supporting Inclusive Education in Elementary Schools**

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**ABSTRACT**

Elementary education is an important foundation for student development, which includes not only academic learning outcomes, but also character and skill formation. Differentiated learning, which adapts learning to students' readiness, interests, and learning profiles, has been proven effective in supporting inclusive education in elementary schools. This study aims to examine the effectiveness of differentiated learning in inclusive classes, focusing on two elementary schools in Jember City, East Java. The research method used is a qualitative approach with a case study design, collecting data through interviews, participant observation, and documentation. The results showed that the implementation of differentiated learning succeeded in creating a more responsive and inclusive learning experience, increasing student engagement, motivation, and achievement. Students with various levels of learning abilities, including those with special needs, received support that was in accordance with their potential. However, challenges such as limited time, resources, and teacher training need to be addressed to improve the effectiveness of implementation.

**Keywords:** Differentiated Learning, Inclusive Education, Elementary School

**INTRODUCTION**

Basic education plays a very important role in the development of students because it is the main foundation for the formation of individuals and a thriving society. Good quality basic education does not only focus on improving academic learning outcomes, but also on the formation of character, values, and skills needed for future life. For example, the basic education system in Finland has shown outstanding learning outcomes, with a high level of educational equality. This success can be attributed to factors such as school autonomy, respect for teachers, and an evaluation system that supports student learning (Kuusilehto-Awale & Lahtero, 2014).

Improving the quality of basic education is also a top priority in many developing countries, because education has a very important role in national and international development (Zhang & Liu, 2018). In this context, teacher quality is a determining factor in the success of basic education. Teachers who have high professional ethics, good teaching skills, and an approach that focuses on developing students' core qualities are essential to achieving these goals (Huang & He, 2018). In addition, university-based teacher education that is oriented towards developing humanistic qualities is also an important element in improving the quality of basic education (Xiuying, 2023).

However, in a diverse classroom context, where there are students with different abilities and interests, educators are faced with the challenge of adjusting teaching and assessment methods to accommodate diverse learning needs. One effective approach to addressing this challenge is differentiated learning. Differentiated learning is a pedagogical approach designed to adapt the learning process to students' readiness, interests, and learning profiles as determined through diagnostic assessments (Zulaikha & Laeli, 2023). In practice, differentiated learning can be applied through various aspects, such as content, process, product, and learning environment (Aysha, 2023; Ouyang & Ye, 2023; Zulaikha & Laeli, 2023). For example, teachers can group students based on their ability level or interests and assign different assignments according to each student's learning profile (Levy, 2008; Ouyang & Ye, 2023). Research also shows that differentiated learning can increase student motivation and engagement in the learning process, as well as help students reach their maximum potential by providing learning experiences that are tailored to individual needs (Aysha, 2023; Desinguraj & Ebenezer, 2021; Zulaikha & Laeli, 2023).

This differentiated learning is also key in supporting inclusive education in elementary schools, which aims to provide equal opportunities for every student to learn together, including those with special needs. In the context of inclusive education, differentiated learning allows students with various levels of ability, both those with high abilities and those who need special support, to learn in a way that suits their needs and potential. However, the implementation of differentiated learning in inclusive classes often faces various challenges, such as limited time, resources, and in-depth understanding of student characteristics (Febriana et al., 2023; Tomlinson, 2005). Therefore, it is important to evaluate the effectiveness of differentiated learning in supporting inclusive education, especially in elementary schools, in order to overcome these challenges and realize optimal learning experiences for all students.

This study aims to examine the effectiveness of differentiated learning in supporting inclusive education in elementary schools. This study will identify how differentiated learning can help students with various levels of learning abilities, as well as the obstacles that teachers may face in implementing it. It is hoped that the results of this study can provide insight for educators in designing and implementing learning that is more responsive to the needs of diverse students. In addition, this study is expected to be a reference for other researchers and policy makers in the field of education to improve the quality of learning in elementary schools, thereby creating a more inclusive and optimal learning experience for each student.

**METHOD**

This study uses a qualitative approach with a case study design to examine the effectiveness of differentiated learning in supporting inclusive education in elementary schools. This study aims to explore in depth the implementation of differentiated learning, as well as the challenges and benefits felt by teachers and students in the context of inclusive classes. Researchers will observe several elementary schools that have implemented differentiated learning, especially those with diverse students with various levels of ability and needs.

The subjects of the study consisted of class teachers and students in two elementary schools in Jember City, East Java Province that implement differentiated learning in inclusive classes. Sampling was carried out using a purposive sampling technique, namely selecting schools that have implemented differentiated learning with varying levels of success. Teachers who have experience in implementing this method, as well as students who represent various levels of learning abilities, including students with special needs, will be involved in this study.

Data collection is done through three main techniques, namely interviews, participant observation, and documentation. Interviews will be conducted with teachers and students to explore experiences, views, and challenges faced in implementing differentiated learning. Participant observation will be conducted to directly monitor the implementation of differentiated learning in the classroom, while documentation will include lesson plans, teaching materials, and evaluations used to support the differentiation process.

The collected data will be analyzed to identify key themes related to the effectiveness of differentiated learning in inclusive education. The analysis process involves coding data from interviews, observations, and documentation to find patterns relevant to the research objectives. Data triangulation will be conducted to ensure the validity of the findings, by comparing results from various data sources. This research is expected to provide insights for educators and policy makers in designing learning that is more inclusive and responsive to the needs of diverse students.

**RESULT AND DISCUSSION**

This study examines the effectiveness of differentiated learning in supporting inclusive education in elementary schools, focusing on two elementary schools in Jember City, East Java Province, that have implemented differentiated learning. Based on direct observation, interviews with teachers and students, and documentation collected, several key findings can be concluded regarding the implementation and impact of differentiated learning in inclusive classes.

**1. Implementation of Differentiated Learning**

The implementation of differentiated learning in two elementary schools in Jember City was carried out with an approach that adapted various learning components according to the needs of each student. In terms of content, teachers adjusted teaching materials based on students' ability levels. Diagnostic assessments were conducted at the beginning of each topic to identify students' level of learning readiness. Based on the assessment results, students were divided into several groups, each of which was given material that was appropriate to their level of understanding. Students with high abilities were given more challenging material, such as advanced questions, while students with lower abilities were given simpler material and adjusted with more detailed steps to help their understanding.

In terms of the learning process, the approaches used vary widely. Students are divided into study groups based on their ability level, with each group receiving instruction tailored to their needs. Teachers employ a variety of teaching methods, such as group discussions, project-based learning, and the use of technology to access relevant content. Students who have a more visual learning style are given material in the form of graphs, diagrams, or videos, while students who are more kinesthetic are involved in movement-based activities or direct conversations. Learning time is also tailored to the needs of the students; students with learning difficulties are given more time to complete assignments and receive additional explanations.

Differentiated learning environments are also an important aspect of teaching and learning at both schools. Teachers create flexible classroom settings, where students can work in small groups or individually according to their needs. Some students who require more attention are given separate rooms and more intensive supervision from teachers. Technology is used to support learning, with educational applications or software tailored to students’ abilities. Students with learning difficulties, for example, are given access to software that provides visual and audio instructions to help them understand. This inclusive environment also creates a positive atmosphere, where all students feel valued and supported to learn in ways that suit their potential.

Overall, the implementation of differentiated learning in both elementary schools has succeeded in creating a more responsive and inclusive learning experience, where each student can learn according to their pace and ability. With an approach that adapts content, processes, products, and learning environments, teachers can provide more personalized attention to each student, including those with special needs. This differentiated learning not only provides opportunities for students with high abilities to develop further, but also ensures that students with learning difficulties get the support they need to reach their maximum potential.

**2. Impact of Differentiated Learning on Students**

Differentiated learning increased student engagement and motivation in both schools. Students felt more valued because they were given tasks that were appropriate to their abilities, so they felt more confident and did not fall behind. Interviews with students also showed that they were more satisfied with the learning experience that was tailored to their needs. Many students expressed that they felt more comfortable and did not feel left behind, because teachers provided materials that were appropriate to their ability level.

The following table shows the findings related to the impact of differentiated learning on students:

|  |  |
| --- | --- |
| **Learning Aspects** | **Findings** |
| **Student Engagement** | Increased student engagement due to assignments that match their abilities. |
| **Motivation to learn** | Students feel more motivated because learning is tailored to their interests and abilities. |
| **Learning Outcome Achievement** | Students with different abilities achieve better results, according to their ability level. |
| **Inclusion of Students with Special Needs** | Students with special needs receive a more inclusive and supportive learning experience. |

From the table, it can be seen that differentiated learning has a significant impact on increasing student engagement. Students who feel that the tasks given are in accordance with their abilities are more enthusiastic about learning and are involved in learning activities. Learning motivation also increases, because students feel more appreciated and do not feel pressured by material that is not in accordance with their ability level. In addition, student learning outcomes are more optimal, because students with various levels of learning abilities can achieve results that are in accordance with their potential. This shows that differentiated learning helps create fairer learning and provides more equal opportunities for each student to succeed. Finally, for students with special needs, the differentiated approach also helps them get a more inclusive learning experience, where they feel supported and given the opportunity to develop according to their abilities.

**3. Challenges in Implementing Differentiated Learning**

Although differentiated learning provides significant benefits, there are several challenges faced by teachers in its implementation. One of the main challenges is time constraints. Teachers often find it difficult to prepare materials that are tailored to various levels of student ability in a limited time. Limited resources, both in terms of teaching materials and facilities, are also obstacles in implementing differentiated learning optimally. In addition, many teachers admitted that they needed further training to understand and implement differentiated learning more effectively. Although some teachers already had a basic understanding of differentiated learning, they felt a lack of specific training on how best to apply this method in diverse classroom contexts. These teachers also wanted training that could provide them with practical skills to design and organize teaching materials that are appropriate to the various levels of student ability. The lack of in-depth understanding of the differentiation approach often makes teachers hesitate to implement this method consistently and effectively. Thus, more structured and ongoing training is needed so that teachers can be more confident in implementing differentiated learning.

The following table illustrates some of the challenges faced by teachers in implementing differentiated learning:

|  |  |
| --- | --- |
| **Challenge** | **Explanation** |
| **Time Limitation** | Teachers have difficulty preparing materials that are tailored to the individual needs of students. |
| **Limited Resources** | Lack of teaching materials that can be adapted to all levels of student ability. |
| **Training Limitations** | Teachers need more training to implement differentiation methods more effectively. |

Overall, these challenges require more attention and effort from schools, education managers, and other related parties to provide the necessary support so that differentiated learning can be implemented effectively.

**DISCUSSION**

The implementation of differentiated learning in two elementary schools in Jember City shows that this approach successfully adjusts various learning components according to the individual needs of students. Differentiated learning that adapts content, processes, products, and learning environments, provides a more personalized experience for students that allows them to learn according to their respective ability levels and learning styles. This is in line with the concept of differentiated learning developed byTomlinson (2005)which states that effective learning is learning that is responsive to student differences, both in terms of ability, interest, and readiness to learn.

In terms of content, teachers in both schools adapt teaching materials based on diagnostic assessments conducted at the beginning of each topic. This allows teachers to know the readiness and abilities of students so that they can provide appropriate materials. Students with high abilities get more challenging materials, while students with lower abilities are given simpler materials and are adjusted with more detailed steps. This approach is in accordance with the principle of differentiation which emphasizes the importance of adapting materials so that students can learn according to their level of understanding (Tomlinson, 2005).

In addition, the learning process applied varies greatly, according to the needs and characteristics of students. Teachers use various methods, such as group discussions, project-based learning, and the use of technology to access learning materials. The adaptive learning system uses individual student characteristics to adjust the learning process, which can improve adaptation efficiency and learning outcomes (Nakić et al., 2015).

The impact of differentiated learning on students is evident in their increased engagement and motivation. Students who feel that the tasks they are given are within their capabilities are more interested in learning and feel more confident. This supports research findings that show that differentiation increases student motivation because they feel valued and understood (Gobiberia, 2021). Learning that is tailored to students' interests and abilities also improves learning outcomes, because each student works according to their potential. Students with special needs, such as those with learning disabilities, feel more supported and gain an inclusive learning experience, which helps them develop according to their capacity.

However, the implementation of differentiated learning does not always run smoothly, one of the main challenges faced by teachers is the limited time in preparing materials that are adjusted to the various levels of student ability. This limited time is a common problem faced by many teachers in implementing more personalized learning strategies (Filho & Lorena, 2001). In addition, limited resources, such as teaching materials that can be adjusted to the various levels of student ability, as well as facilities that support the implementation of differentiation, are also obstacles. This requires schools to have greater support in terms of teaching materials and learning facilities that can support the diversity of student needs.

Another challenge is the lack of specific training for teachers in implementing differentiated learning effectively. Although many teachers are already familiar with the basic concept of differentiated learning, they feel they need further practical training to be able to design teaching materials that are appropriate to the characteristics and abilities of diverse students. This was also expressed byMuñoz-Martínez et al. ( 2021)which states that ongoing training for teachers is essential to ensure the successful implementation of more inclusive and effective learning methods. Therefore, more structured and ongoing training is needed so that teachers can be more confident and competent in implementing differentiated learning.

Overall, despite the challenges in its implementation, differentiated learning has been shown to have a significant impact on increasing student engagement, motivation, and achievement. This approach not only helps high-ability students to develop further, but also ensures that students with learning difficulties receive the support needed to reach their full potential. However, to optimize the implementation of differentiated learning, further support is needed in terms of teacher training, adequate resource provision, and more effective time management.

**CONCLUSION**

The implementation of differentiated learning in two elementary schools in Jember City has succeeded in creating a learning experience that is more responsive to the needs and abilities of individual students. By adjusting the content, process, product, and learning environment, this approach allows students to learn according to their potential, increasing engagement, motivation, and achievement of learning outcomes. Learning that uses a variety of technologies and methods has also proven effective, especially for students with different learning styles and special needs. However, although differentiated learning provides significant benefits, challenges in its implementation remain. Limited time, resources, and teacher training are the main obstacles that need to be overcome. More structured training and adequate resources are needed to ensure optimal implementation of differentiated learning. With the right support, differentiated learning can have a greater positive impact on students, including those with learning disabilities.

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