Differentiated Learning in the Context of the Independent Curriculum: Level of Understanding, Challenges, and School Aspirations

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Abstract

This study aims to understand the perspectives and practices of early childhood education (ECE) teachers in implementing differentiated learning in the Program Sekolah Penggerak. Differentiated learning adapts teaching strategies based on students' needs, interests, and learning styles. The method used is a qualitative case study, with data collected through interviews, classroom observations, and document analysis in 20 ECE schools. The results show that although ECE teachers generally have a positive view of differentiated learning, its implementation still faces various challenges, including a lack of adequate training and limited administrative support. Program Sekolah Penggerak seeks to address these challenges through teacher training and professional development, but this study highlights the importance of increasing support so that differentiated learning can be effectively implemented. The findings are expected to help improve educational practices at the ECE level and serve as a reference in developing more inclusive educational policies.

Keywords:-Differentiated Learning, Early Childhood Education, Program Sekolah Penggerak, Learning Needs

1. INTRODUCTION

The development of science and technology has become something inevitable, impacting various sectors of life [1]. This has a significant impact on various aspects of life, including education, which must be able to produce future generations with competencies and character that align with the advancements of the world in the era of Industry 4.0 within the context of Society 5.0, without neglecting the noble values of culture [2][3]. Therefore, education needs to focus on the development of students' potential as individuals with unique and differing characteristics [4], [5].

Traditional education systems often apply uniform teaching methods despite the diverse backgrounds of students [6][7]. Each student is considered to start from the same point and undergo a uniform learning process, like a fixed pathway [8]. As a result, students who go through this process, despite having different abilities and needs, are often deemed "behind" or "less capable" if they do not align with the applied teaching methods [9]–[11]. This situation indicates that the education system needs to be reformed to achieve the best outcomes for each student. Educators in this era must remember that every child who comes to school has differences [12], even though they are all referred to as "students".

In the context of early childhood education, each child has their own uniqueness with different needs, abilities, and learning preferences, so educators strive to meet the needs of each child [13]–[15]. In the definition of early childhood education, each child has the right to develop their skills according to their individual potential [16]–[18]. Differentiated instruction aims to enhance students' learning experiences by adapting teaching approaches based on individual characteristics [19]. This includes grouping, teaching methods, and resources used

in the classroom, as well as recognizing students' differences to maximize their learning potential [20], [21]. In differentiated instruction, each child's learning pace and style are taken into account [22], [23]. To ensure success, student motivation is crucial, with the recognition that their interests are key to motivation, and supporting their success will build confidence in learning [24], [25].

This differentiated learning approach is centered on the recognition that students have differences [26]. Therefore, teaching should be tailored to the individual conditions of students, rather than using a uniform approach [27]. Differentiated instruction aims to address each student's unique needs by adapting teaching methods to achieve curriculum goals through flexible grouping and activities that involve active student participation [23], [28]. Key features of this approach include the use of group-based tasks and attention to both individual and whole-class learning, with a greater emphasis on the quality rather than the quantity of tasks [23].

In Indonesia, the concept of differentiated instruction is adapted in the Merdeka Curriculum, which provides flexibility for educators to adjust teaching methods according to students' abilities, interests, and learning styles [26], [27]. This curriculum enables more personalized learning, accommodating various levels of student readiness, and encourages their active participation [10], [11], [29]. Thus, the Merdeka Curriculum acknowledges students' uniqueness and supports the development of their potential, creating an inclusive and effective learning environment [30]–[32].

The implementation of differentiated instruction includes adjusting five elements: content, process, product, learning environment, and assessment [33]. These adjustments are made based on three primary student needs: readiness, interests, and learning profiles [34], [35]. Teachers can provide differentiated instruction by offering choices in one or all of these elements [36]. Before starting instruction, teachers are expected to analyze students' needs and levels of readiness [37]. This requires teachers to understand each student's learning style [38], [39]. As an effort to enhance teachers' competencies in implementing differentiated instruction, a program called " Program Sekolah Penggerak " was launched. [40].

Program Sekolah Penggerak it is an initiative launched by the Ministry of Education, Culture, Research, and Technology to improve the quality of education in Indonesia. The program aims to create schools that drive educational transformation through the implementation of the Merdeka Curriculum, innovative teaching practices, and the development of an inclusive school culture [41]. The main targets of this program are school principals, teachers, and educators at various levels, with the goal of implementing student-centered educational practices and developing their professional capacities [42]. The expected outcomes of this program are improved student learning results, enhanced teacher competencies, and the establishment of model schools implementing innovative teaching practices [43]–[45].

Several studies indicate that teachers have made efforts to implement new innovations through differentiated instruction to support students with diverse needs [43], [46], [47]. However, challenges such as a lack of training and administrative support have caused some teachers to be hesitant in implementing differentiated instruction [48], [49]. Although early childhood education (ECE) teachers generally have a positive view of this approach, some studies indicate that resistance to its implementation is often due to insufficient training and the lack of development of teaching materials [50], [51].

The aim of this study is to understand the perspectives and practices of early childhood education (ECE) teachers in the School Driving Program regarding differentiated instruction, as revealed through interviews, classroom observations, and document analysis. This study highlights teachers' general views on differentiated instruction, its application in the classroom, and the challenges faced in the process.

2. METHOD

When variables are not known, employing a qualitative research methodology is more efficient, since quantitative research is better suited for identifying relationships between existing variables [52], [53]. n qualitative research design, the goal is for researchers to uncover variables within a situation by conducting a thorough exploration of participants' perceptions of the world [52]. In other terms, qualitative research engages the researcher in the investigation and offers insights based on the researcher's comprehension, similar to what occurs in this study.

The objective of this study is to collect comprehensive information and gain insights into the perspectives and practices of early childhood education (ECE) teachers participating in the Program Sekolah Penggerak concerning differentiated instruction. To accomplish this aim, a case study research design was selected, as it

involves an in-depth analysis of the specific case. A case study is a qualitative method where researchers explore a defined system through an extensive review of data from multiple sources and present the findings in a descriptive manner [54]. The primary objective of a case study is to achieve a thorough understanding of events within a particular context, enabling the researcher to offer insights that can inform and guide the field [54]. Therefore, it is anticipated that the results from this particular case can be relevant to other early childhood education institutions that implement differentiation. Moreover, by providing a comprehensive description of the case and its outcomes, the findings may serve as a basis for developing additional case studies.

The goal of qualitative research is to understand phenomena, but there are various qualitative designs suited to specific situations and intentions [52]. Ultimately, this study aims to enhance understanding of early childhood education teachers' perceptions and their implementation of differentiated instruction in their schools. Based on the collected data, the researcher will provide feedback to assist practitioners in improving their skills. The case study begins by defining and clarifying the research questions designed to support this investigation. These questions focus on teachers' perspectives on differentiated instruction, their preparation for differentiated learning, and how they implement differentiated instruction in their classrooms. The final research question seeks to examine the challenges teachers encounter when applying differentiated instruction in early childhood education settings.

Data collection is an essential component of research. In the context of case studies, this process includes utilizing documentation, archival records, conducting interviews, and performing direct observations [55]. In this study, information about the case is collected through interviews, classroom observations, and document analysis. The informants were selected using convenience sampling, which is a non-probability purposeful sampling method that involves choosing subjects based on their availability and closeness to the researcher [52]. In this study, the proximity refers to the researcher being a facilitator for the Program Sekolah Penggerak and the teachers being participants in the program. As this is a qualitative case study, the data collection process spans a long period, and the researcher frequently visits the schools throughout the process. A total of 20 school principals and 40 early childhood education teachers voluntarily participated as informants in this study. The informants were selected based on the criteria of holding at least a bachelor's degree and having a minimum of 5 years of teaching experience.

Even though this study was carried out in just 20 schools, the results can be relevant to other situations that involve differentiated instruction in early childhood education. To ensure this relevance, comprehensive descriptions of the schools, participants, and surrounding environment are included. Readers will discover links between the teachers' backgrounds, their perceptions of differentiation, and their teaching practices, as well as the challenges they encounter, all presented in detail. Consequently, these findings can be applied to other contexts by formulating appropriate assumptions.

3. RESULTS AND DISCUSSION

This study aims to explore educational practices implemented across seven schools located in various regions. The primary focus is to identify the teaching strategies considered effective by teachers and principals, as well as to understand the challenges they face in implementing these strategies. Participants in the study include 20 school principals and 40 teachers, selected based on their roles in designing and executing the learning process in their respective schools. Each school has unique characteristics that provide different contexts for applying teaching strategies, such as geographical location, students' socio-economic conditions, and available resources. Therefore, this study not only provides an overview of teaching practices but also presents an in-depth analysis of how these contexts influence the effectiveness and challenges of implementing teaching practices in each school.

3.1 Understanding

From interviews and observations, it was revealed that the teaching strategies used by teachers in the seven schools varied depending on the needs of the students and the conditions of the schools. Most teachers relied on project-based learning and group discussion methods to enhance student engagement in the learning process. These methods were chosen because they were believed to encourage students to think critically and develop teamwork skills, which are essential for facing future challenges. However, the implementation of these methods was not always smooth. Some teachers reported difficulties in managing the time and resources required to carry out complex projects. Additionally, there were differences in teachers' levels of expertise and experience

in managing projects, which contributed to variations in learning outcomes among different classes. Nevertheless, support provided by school principals, such as the provision of training and learning materials, played a crucial role in the successful implementation of these strategies.

In addition to the variation in the application of teaching strategies, this study also identified several significant challenges faced by teachers and school principals. One of the major challenges identified was the limitation in ongoing training for teachers. Although there were school initiatives to conduct training, many teachers felt that the training provided was insufficient to meet their practical needs in the field. Training that was too theoretical and less relevant to real classroom situations was a major complaint. Furthermore, the heavy workload also hindered teachers from implementing more innovative teaching methods. Teachers often felt pressured to complete the curriculum within a limited timeframe, which ultimately reduced the time available for planning and developing more creative and effective teaching strategies. High administrative burdens and the demands of adhering to strict performance evaluations also added to the pressures faced by teachers.

3.2 Challenges

Implementing differentiated learning in early childhood education presents various challenges that educators must address to effectively meet the diverse needs of learners. Differentiated learning, which involves tailoring educational experiences to meet individual students' needs, is crucial in early childhood settings where children exhibit varying levels of readiness, interests, and learning profiles. This complexity is exacerbated by the need for educators to have a strong understanding of differentiated practices, which is often lacking due to inadequate training and professional development opportunities.

One of the main challenges in implementing differentiated learning is the lack of adequate training for early childhood educators. This study shows that many teachers are not sufficiently prepared to apply differentiated strategies effectively in their classrooms. This knowledge gap can lead to reliance on traditional teaching methods, which are uniform and cannot meet each child's unique learning needs. For example, children in the same class may have very different levels of alphabet understanding, which requires varied teaching approaches to support their learning. Without proper training, educators may struggle to identify and implement strategies that align with each child's developmental stage.

Moreover, the implementation of differentiated learning is often hindered by systemic factors, such as limitations in curriculum and standard assessment practices. Many early childhood education programs emphasize uniformity in teaching and assessment, which can constrain the flexibility needed for effective differentiation. This rigidity can pressure educators to adhere to a predetermined curriculum, leaving little room for adapting lessons to meet the diverse needs of their students. As a result, the potential benefits of differentiated learning may not be fully realized in such environments.

Another significant challenge is the variation in children's backgrounds and experiences, which can influence their preferences and readiness to learn. Differentiating based on children's interests, such as offering choices in activities, can enhance engagement and learning outcomes. However, this approach requires educators to be adept at recognizing and responding to each student's individual interests and needs, which can be difficult without a comprehensive understanding of each child's background. Additionally, social dynamics in the classroom can influence children's choices, as they may select activities based on peer influence rather than genuine interest.

The COVID-19 pandemic has exacerbated these challenges by forcing a rapid shift to remote learning, which has been particularly problematic in early childhood education [56], [57]. Dependence on technology for teaching has highlighted educators' struggles to facilitate online learning experiences that are developmentally appropriate for young children. Many educators have reported difficulties in maintaining engagement and providing meaningful interactions in virtual environments, which are crucial components of early childhood education. This situation underscores the urgent need for ongoing professional development to equip educators with the skills to adapt their teaching practices across various contexts, including remote learning.

Additionally, the emotional and social aspects of early childhood education cannot be overlooked. Emotional scaffolding is crucial for encouraging children's engagement and motivation in learning activities. Educators need to be trained not only in academic differentiation but also in strategies that support children's emotional and social development. A holistic approach to differentiation is essential for creating an inclusive learning environment where all children feel valued and supported in their learning journey.

Furthermore, assessing children's progress within a differentiated learning framework presents its own challenges. Traditional assessment methods may not accurately reflect the diverse learning paths of children, making it difficult for educators to gauge the effectiveness of their differentiated strategies. Implementing formative assessments that are responsive to individual learning needs is crucial for informing instructional decisions and ensuring that all children make progress.

The role of family and community engagement is also vital to the success of differentiated learning. Research shows that when families are involved in their children's education, it can enhance learning outcomes and support the implementation of differentiated practices. However, fostering this engagement requires educators to build strong partnerships with families, which can be challenging in diverse communities where cultural differences may affect perceptions of education and involvement.

The implementation of differentiated learning in early childhood education is fraught with challenges that require a multifaceted approach to address. Educators must be equipped with the training, resources, and support needed to effectively differentiate instruction and meet the diverse needs of their students. This includes academic differentiation, emotional and social support, and active involvement with families and communities. As early childhood education continues to evolve, especially in light of recent global challenges, it is essential for educators to be prepared to adjust their practices to ensure that all children have the opportunity to thrive in their learning environments.

3.3 School Aspirations

The role of school principals in supporting and facilitating the implementation of teaching strategies is also a key focus of this study. Based on interviews with seven principals, it appears that principals with a clear vision and a strong commitment to improving educational quality are able to create an environment that supports teachers in innovating their teaching practices. These principals not only provide the necessary facilities and resources but are also directly involved in the planning, monitoring, and evaluation of learning processes. They frequently offer guidance, mentorship, and moral support to teachers, which in turn boosts teachers' motivation and enthusiasm to experiment with new methods. However, the study also found significant differences in leadership styles among principals. Some principals tend to adopt a more passive approach, leading to a lack of encouragement for teachers to grow and innovate. This less proactive leadership often results in stagnation in the development of teaching strategies and ultimately affects the quality of education provided to students.

In addition to human factors, the physical and social environment of schools also significantly influences the effectiveness of learning. The study found that schools with comprehensive and modern facilities tend to show better learning outcomes. Facilities such as spacious and comfortable classrooms, access to advanced educational technology, and adequate learning materials provide crucial support for teachers in implementing effective teaching methods. Conversely, schools with limited facilities often struggle to optimize the learning process. Moreover, the social atmosphere at school, such as relationships among teachers, interactions between teachers and students, and engagement with school management, also affects the quality of learning. Schools that successfully create an inclusive environment, where every individual feels valued and supported, are more likely to succeed in implementing innovative teaching strategies. Positive interactions between teachers and students, as well as a culture of collaboration and support among school staff, are crucial in fostering a conducive learning environment.

The findings of this study have several important implications that can inform decision-making in the development of educational policies and practices in the future. First, it is crucial for policymakers to address the need for more practical and relevant teacher training that aligns with the challenges faced in the classroom. Training should bridge the gap between theory and practice, so that teachers feel more prepared and confident in implementing innovative teaching strategies. Second, principals need to be encouraged to take a more proactive role in supporting and facilitating the implementation of teaching strategies in their schools. Strong leadership and a clear vision are essential for driving innovation and improving educational quality. Third, improving physical facilities and access to technology in schools should also be a priority to support effective learning processes. With adequate facilities, teachers will find it easier to develop and apply creative and technology-based teaching methods. Finally, it is important to continue building an inclusive and supportive school environment where all members of the school community feel valued and motivated to contribute to the enhancement of educational quality.

4.   CONCLUSION

The advancement of technology and scientific knowledge has significantly impacted the education sector, particularly in the context of the Fourth Industrial Revolution and Society 5.0. Education must focus on developing individual potential while considering the unique differences of each student. Differentiated learning becomes crucial to adapt teaching methods to the varying needs and abilities of students. In Indonesia, this concept is integrated into the Merdeka Curriculum, which provides flexibility for educators to accommodate student differences. However, challenges persist, such as inadequate teacher training and limited administrative support. The School Driving Program is expected to address these challenges by enhancing teacher competencies and the quality of education. This study employs a qualitative case study approach to explore the perspectives and practices of early childhood education (ECE) teachers regarding differentiated learning, as well as the challenges they face in implementing it in the classroom.

ACKNOWLEDGEMENTS

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