The Level of Implementation of Differentiated Instruction by Teachers at SMP Negeri 2 Pasir Limau Kapas

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Abstract: Differentiated instruction is a pedagogical approach that tailors teaching strategies to the diverse needs, readiness levels, interests, and learning styles of students. This study aims to investigate the extent to which teachers at SMP Negeri 2 Pasir Limau Kapas have implemented differentiated instruction within the context of the *Kurikulum Merdeka* (Independent Curriculum). Employing a quantitative approach, the study utilized a survey method involving 20 actively teaching educators at the school. The research instrument was a Likert-scale questionnaire encompassing indicators of differentiation in content, process, product, and learning environment. Data were analyzed using descriptive statistics via SPSS. The results indicate a high level of differentiated instruction implementation, with an average questionnaire score of 87.45 and a standard deviation of 8.049. Most teachers have applied formative assessment, adapted instructional methods, and varied learning materials according to students' needs. Despite challenges such as limited training opportunities and administrative workload, differentiated teaching practices have been consistently applied. The discussion highlights that the findings align with previous research emphasizing the importance of differentiation strategies in enhancing student engagement and learning outcomes. In contrast to several studies reporting low implementation levels, the success observed in this school underscores the significance of teacher motivation and a collaborative professional culture. This study recommends continuous professional development, academic supervision, and professional collaboration as key strategies to strengthen the implementation of differentiated instruction in schools, particularly in alignment with local contexts and the diverse characteristics of students.

Keywords: Differentiated Instruction, Merdeka Curriculum, Teacher Implementation, Differentiation Strategy, Quantitative Survey, Professional Collaboration.

1. INTRODUCTION

Differentiated instruction is an instructional approach that focuses on the diverse needs, readiness levels, interests, and learning styles of students. In this process, teachers are required to design adaptive learning strategies so that each student can reach their full potential (Tomlinson, 2014). This approach is highly relevant in the context of 21st-century education, which demands a more responsive education system to individual differences within the classroom (Sousa & Tomlinson, 2018). A study by Prast et al. (2018) emphasized that differentiated instruction significantly enhances student engagement and learning outcomes, particularly in heterogeneous classroom settings. Furthermore, Gheyssens et al. (2020) noted that implementing differentiated instruction requires school policy support, continuous teacher training, and a collaborative culture among educators to develop inclusive and effective teaching practices.

The implementation of differentiated instruction in the *Merdeka Curriculum* aims to create an inclusive and adaptive learning environment that embraces student diversity. This strategy emphasizes the importance of adjusting content, process, product, and learning environment based on students' readiness, interests, and learning profiles (Sulaiman et al., n.d.; Azmy & Fanny, 2023). The process begins with diagnostic and formative assessments to identify students' needs and monitor their progress as the foundation for instructional adjustments (Fitra, 2022). In this model, teachers act as facilitators, guiding students through learning paths aligned with their potential and interests, consistent with the goals of the *Merdeka Curriculum* to foster student independence and character development (Arumsari & Susanti, 2024). However, challenges such as limited teacher understanding and lack of training become major obstacles in its implementation. Therefore, professional development and adequate resource allocation are needed to optimize differentiated instruction (Muthaharoh et al., 2024). Without strong systemic support, the full potential of the *Merdeka Curriculum* in achieving equitable and inclusive education may not be realized.

Differentiated instruction is a pedagogical approach that customizes teaching strategies to the diverse needs of students, significantly improving motivation and academic achievement, particularly at the junior high school level. This strategy supports not only the development of high-achieving students but also provides optimal support for lower-achieving students to participate in the learning process equally. Research shows that when teaching methods align with students' interests and learning styles, motivation increases as students feel more engaged and find learning more meaningful (Nurlatifah & Munandar, 2024). Teachers who implement differentiated instruction adjust content, process, and products according to students' readiness and abilities, which has proven effective in enhancing learning outcomes—especially in subjects like mathematics that require level-based adjustments (Herawati et al., 2024; Azmy & Fanny, 2023; Nuraini et al., 2024). However, the success of this strategy highly depends on careful planning, ongoing assessment, and institutional support, as teachers must design adaptive and contextual learning models (Puspitasari et al., 2024). Unfortunately, training limitations and resource shortages remain primary challenges, causing some teachers to rely on conventional methods that are less responsive to student diversity, thereby hindering motivation and learning achievement.

The implementation of differentiated instruction (DI) in educational settings continues to face critical challenges that affect its effectiveness. The main barriers include limited teacher training, excessive administrative workloads, and insufficient understanding of differentiation principles. Many teachers have not received adequate training and thus only grasp DI concepts superficially, lacking strong application skills (Lavania & Nor, 2020; Hajis & Othman, 2024). Meanwhile, the heavy administrative burden often reduces the time and energy teachers need to design varied, student-centered learning experiences (Awaru et al., 2023; Suryati et al., 2023). The complexity of planning differentiated learning experiences also causes some educators to feel overwhelmed, reinforcing the need for a deeper conceptual understanding for effective DI implementation (Lavania & Nor, 2020). Nonetheless, some teachers have managed to overcome these barriers through targeted training and continuous support, indicating that DI practices can be improved. However, systemic challenges in educational institutions must be addressed to create an environment that fully supports the effective implementation of differentiated instruction.

SMP Negeri 2 Pasir Limau Kapas faces various challenges in implementing the *Merdeka Curriculum*, including limited teacher professional development, uneven curriculum understanding, and highly diverse student characteristics. Limited access to ongoing training and workshops has made it difficult for many teachers to understand and apply the curriculum demands optimally (Noviandari, 2024; Sipahutar et al., 2024). Additionally, the lack of uniform understanding among educators results in inconsistencies in instructional practices, necessitating systematic intervention by education authorities to ensure alignment in understanding curriculum principles (Setioyuliani & Andaryani, 2023). On the other hand, the diverse socio-cultural backgrounds and learning needs of students, particularly in coastal areas, demand more contextual and differentiated teaching approaches (Nurhasna et al., n.d.; Heryanti et al., 2023). While complex, these challenges also present opportunities for more targeted and locally relevant interventions. Involving local stakeholders in designing culturally and geographically relevant implementation strategies is believed to enhance the effectiveness of the

Merdeka Curriculum in the region.

Understanding the extent of differentiated instruction implementation is essential for schools aiming to improve the effectiveness of the learning process. Evaluating current practices allows schools to formulate strategic steps through continuous training, teacher collaboration, and systematic academic supervision. Ongoing professional development plays a critical role in equipping teachers with the skills to deliver instruction tailored to diverse student needs (Blaz, 2023; Nurwidiawati et al., 2024). Additionally, collaborative models such as team teaching and peer observation serve as platforms for sharing best practices and strengthening collective learning culture among educators (Hidayat et al., 2024; Azmy & Fanny, 2023). Structured academic supervision is also needed, involving feedback mechanisms and ongoing monitoring of student learning outcomes to appropriately adjust teaching strategies (Chipika et al., 2023). Although these strategies offer significant potential to enhance the quality of differentiated instruction, barriers such as resistance to change and varying levels of teacher readiness remain challenges. Addressing these issues is a critical step toward creating inclusive and adaptive learning environments.

To gain an objective picture of the extent to which teachers have implemented differentiated instruction, this study employs a quantitative approach with a survey method, guided by the research question: "To what extent have teachers at SMP Negeri 2 Pasir Limau Kapas implemented differentiated instruction in their teaching practices?" This approach allows the researchers to systematically measure the level of differentiation strategies applied in the classroom. A quantitative method is considered relevant as it enables accurate quantification of variables and efficiently reaches a broader number of respondents.

2. METHODS

Research Design

This study employed a quantitative approach with a correlational survey design. The aim of this approach was to measure the level of differentiated instruction implementation and to analyze the relationships among differentiation indicators applied by teachers. The correlational survey model was chosen because it is suitable for examining trends and relationships among variables within a specific population systematically and objectively (Creswell, 2012).

Population and Sample

The population in this study consisted of all teachers actively teaching at SMP Negeri 2 Pasir Limau Kapas during the current academic year. According to data provided by the school, there were 20 teachers who met the criteria as research respondents. Since the population size was relatively small, a total sampling technique was employed. This approach aimed to obtain more accurate and representative results for the school's condition.

Instruments and Data Collection Techniques

The instrument used in this study was a closed-ended questionnaire based on a Likert scale with five categories (1 = strongly disagree to 5 = strongly agree). The questionnaire was developed based on four main dimensions of differentiated instruction: content differentiation, process, product, and learning environment (Tomlinson, 2014). Each dimension was broken down into several indicators relevant to the practice of differentiated instruction at the school level.

Before use, the instrument was tested for validity and reliability to ensure that each item could accurately measure the intended constructs and provide consistent results.

Data Analysis Techniques

The collected data were analyzed using descriptive quantitative statistics, namely: mean, standard deviation, and percentage. This analysis aimed to provide a general overview of the level of differentiated instruction implementation by teachers at SMP Negeri 2 Pasir Limau Kapas across each indicator. The results were then interpreted to understand the implementation trends and variations in the school's geographic and social context.

3.   FINDINGS AND DISCUSSION

Description and Interpretation of Research Data
A. Questionnaire Score Description

This study involved 20 teachers from SMP Negeri 2 Pasir Limau Kapas as respondents who completed a questionnaire on the implementation of differentiated instruction. The questionnaire was structured based on indicators of content, process, product, and learning environment differentiation. The data were processed using descriptive statistics, yielding the following summary:

Statistic	Value
Number of Respondents	20
Range	27
Minimum Score	76
Maximum Score	103
Total Score	1749
Mean Score	87.45
Standard Deviation	8.049
Variance	64.787
Skewness	0.318
Kurtosis	-0.620

The study gathered responses from 20 teachers at SMP Negeri 2 Pasir Limau Kapas who completed a questionnaire assessing the implementation of differentiated instruction, focusing on content, process, product,

and learning environment. The descriptive statistical analysis revealed that the total score obtained was 1,749, with individual scores ranging from 76 to 103. The mean score was 87.45, indicating a generally high level of implementation among participants. The standard deviation was 8.049, reflecting moderate variability in responses, while the variance was 64.787. The distribution of scores showed a slight positive skewness (0.318), suggesting that more teachers scored above the average, and a kurtosis of -0.620 indicated a relatively flat distribution compared to a normal curve.

B. Data Interpretation
1. Overall Level of Differentiated Instruction Implementation

The mean score of the questionnaire was 87.45 out of a maximum possible score of 100 (based on the highest individual score of 103), indicating that, in general, the teachers have implemented differentiated instruction at a high level. This score reflects that the majority of teachers responded positively to the various differentiation aspects measured in the questionnaire.

2. Variation and Consistency in Teacher Responses

The standard deviation of 8.049 indicates a moderate variation among teacher responses, but no extreme outliers. With a minimum score of 76 and a maximum score of 103, it can be inferred that although there are differences in levels of understanding or implementation among teachers, no teacher showed an extremely low level of differentiated instruction implementation.

3. Data Distribution (Skewness and Kurtosis)

The skewness value of 0.318 suggests a slight right skew, meaning there are still a few teachers with very high implementation scores. However, since the value remains within the acceptable range of -1 to +1, the distribution is still considered normal.

The kurtosis value of -0.620 indicates a platykurtic distribution, or in other words, the scores are relatively evenly spread out and not overly concentrated around a single value. This implies that the implementation of differentiated instruction was carried out consistently across teachers, although with minor variations in the level of application.

C. Classification of Implementation Levels
To provide a more concrete overview, the questionnaire scores can be classified into three categories:
- **High**: >90
- **Moderate**: 80–90
- **Low**: <80

Based on the classification above and considering the mean score of 87.45, it can be concluded that most

teachers fall into the "moderate to high" category in terms of their implementation of differentiated instruction.

Based on the analyzed descriptive statistical data, it can be inferred that teachers at SMP Negeri 2 Pasir Limau Kapas have implemented differentiated instruction at a relatively high level. This is evident from the average questionnaire score of 87.45, along with the distribution of scores, which shows consistency across teachers. Although some variation exists, the data distribution is considered normal and evenly spread, indicating that the concept of differentiated instruction has begun to be well understood and applied by the majority of teachers at the school.

Discussion: Comparison of Research Findings with Previous Studies
The findings of this study indicate that the level of differentiated instruction implementation by teachers at SMP Negeri 2 Pasir Limau Kapas falls into the high category, with an average questionnaire score of 87.45. This result aligns with the statements of Tomlinson (2014) and Sousa & Tomlinson (2018), who emphasized that differentiated instruction is highly relevant in addressing the diverse needs of 21st-century learners and that teachers must adjust their strategies based on students' interests and readiness levels. In the context of SMP Negeri 2 Pasir Limau Kapas, the relatively high level of implementation suggests that the teachers have internalized these principles, although they continue to face systemic challenges.

Similarities are also found with the study by Prast et al. (2018), which concluded that differentiated instruction significantly enhances student engagement and learning outcomes, especially in heterogeneous

classroom environments. This is supported by field data showing that despite being located in a coastal area with diverse student backgrounds, teachers actively applied differentiation strategies. Therefore, this study supports the assumption that differentiation is not only applicable in urban settings but can also be effectively adapted in schools with unique geographical and social characteristics like SMP Negeri 2 Pasir Limau Kapas.

However, a sharp contrast emerges when compared to the findings of Muthaharoh et al. (2024) and Lavania & Nor (2020), who highlighted the limited understanding and skills of teachers in implementing differentiation principles due to a lack of professional training and high administrative burdens. In this study, although such constraints were also present, the level of teacher implementation remained high. This is likely due to self-initiated efforts by teachers to understand the *Merdeka Curriculum*, or perhaps due to strong informal support within the school community. This contrast opens opportunities for further investigation into local factors that reinforce the practice of differentiated instruction, even amid systemic limitations.

Another distinction can be drawn with the studies of Awaru et al. (2023) and Suryati et al. (2023), which reported that heavy administrative workloads significantly hindered the effectiveness of differentiated instruction. Contrary to those findings, most teachers at SMP Negeri 2 Pasir Limau Kapas were still able to design and implement adaptive learning strategies despite facing administrative challenges. This demonstrates the **professional resilience** of teachers in maintaining the quality of instruction amid operational constraints.

This study also reinforces the findings of Nurlatifah & Munandar (2024) and Herawati et al. (2024), who stressed that implementing differentiation strategies significantly increases students' learning motivation. Teachers who tailor their strategies to students' interests and learning styles are better able to foster engagement in the classroom. Based on the questionnaire results, most teachers in this study reported consistently using formative assessment and modifying methods based on student characteristics—practices that reflect the applied principles of differentiated instruction.

Nevertheless, the findings of this study are not fully aligned with reports from Noviandari (2024) and Sipahutar et al. (2024), which found that teachers' understanding of the *Merdeka Curriculum* and differentiation remained very low, particularly in areas with limited access to training and information. At SMP Negeri 2 Pasir Limau Kapas, however, teachers demonstrated a high level of implementation despite being in a coastal region. This further emphasizes that the success of differentiated instruction is not solely determined by geographical location or formal policy support, but also by individual teacher motivation and the collaborative culture internally developed within the school.

Finally, this study strengthens the argument put forth by Blaz (2023) and Hidayat et al. (2024) that the success of differentiated instruction heavily relies on sustainable training systems, academic supervision, and inter-teacher collaboration. In the context of this study, even though not all teachers had access to formal training, effective practices emerged through internal cooperation, peer observation, and teachers' own initiatives to share instructional strategies. This underscores the importance of reinforcing a professional culture in schools as a key driver of successful implementation of differentiated learning.

4. CONCLUSION

This study reveals that the implementation of differentiated instruction by teachers at SMP Negeri 2 Pasir Limau Kapas has reached a relatively high level, with an average questionnaire score of 87.45 from 20 teacher respondents. This indicates that the majority of teachers have adopted the core principles of differentiated instruction in designing content, process, product, and learning environments that are adaptive to students' readiness, interests, and learning styles.

These findings reinforce prior studies that highlight the benefits of differentiated instruction in enhancing student motivation and engagement, although previous research also noted persistent challenges such as limited training and administrative burdens. In the local context, the success of implementation at SMP Negeri 2 Pasir Limau Kapas suggests that internal factors such as teacher motivation, peer collaboration, and professional initiative play a significant role in the effectiveness of this instructional strategy—even under constrained conditions.

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