

Differentiated Instruction Analysis Based on Students' Learning Styles

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Abstract

Differentiated instruction is a student-centered approach and represents one of the key principles of the Merdeka Curriculum. Each student has a distinct learning style, which refers to how they absorb, understand, and process information. This study aims to analyze the implementation of differentiated instruction based on students' diverse learning styles. This study was a qualitative survey with descriptive analysis. Data were collected through classroom observations to examine teaching practices, questionnaires to identify students' learning styles, interviews to explore teachers' perspectives, and documentation to support and validate the findings. The subjects of the study were 27 fourth-grade students of SDN Wonosari 01, Class IV B. The results show that 15 students have a visual learning style, 7 have an auditory learning style, and 5 have a kinesthetic learning style. These differences highlight the importance of applying instructional strategies that align with students' characteristics. By adjusting teaching methods, teachers can improve the effectiveness of the learning process and support the achievement of educational objectives. The findings are expected to serve as a reference for lesson planning and as a practical example for other schools in implementing differentiated instruction.

Keywords: Differentiation; Learning Style; Instruction.

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Introduction

The Merdeka Curriculum provides educators with the flexibility to design high-quality learning experiences that are responsive to the diverse needs of students. Its key characteristics include the development of soft skills and character, a focus on essential content, and the implementation of flexible and student-centered learning approaches. This flexibility becomes highly relevant to the implementation of differentiated instruction, as it allows teachers to adjust content, learning processes, and assessment based on students' readiness, interests, and learning profiles. In particular, the Merdeka Curriculum accommodates diverse learning styles by encouraging the use of varied learning activities, such as visual media, interactive discussions, and hands-on experiences, so that students can access learning in ways that align with how they best receive and process information. In addition, project-based learning within the Merdeka Curriculum provides opportunities for students to explore content through multiple modalities, thereby supporting visual, auditory, and kinesthetic learners simultaneously.

Differentiated instruction is an effort to adjust classroom learning processes to meet the individual learning needs of each student (Tomlinson, 2000). These adjustments relate to students' interests, learning profiles, and readiness, aiming to improve learning outcomes. Differentiated instruction is also defined as a way of recognizing and teaching according to students' diverse talents and learning styles (Morgan, 2014). Teachers facilitate students based on their specific needs, as each student has unique characteristics and therefore cannot be treated the same. Differentiated instruction is not individualized instruction Marlina et al., (2019). Rather, it tends to accommodate students' strengths and learning needs through independent learning strategies.

Demir (2021) It can be concluded that the instructional design of differentiated learning, enriched through Kolb's learning styles and Bloom's taxonomy, has a positive effect on the expression and enhancement of gifted students' creative thinking skills. Differentiated instruction based on learning styles is more effective in motivating students toward learning compared to traditional teaching methods. Menurut Herwina (2021), Teachers who aim to support and develop their students' creative thinking skills must first identify each student's potential, interests, and learning style. They should then provide a learning environment where students can express their creativity, explore their ideas freely, and generate unique solutions to the problems they encounter. Finally, teachers should implement approaches, methods, or techniques that enhance creative thinking and whose effectiveness has been scientifically validated in the literature.

Differentiated instruction follows a collaborative strategy that leverages all differences to gain insights from what is being learned. The core idea is that differentiated instruction creates a classroom characterized by diversity, providing students with opportunities to access content, process ideas, and enhance their individual learning outcomes, thereby enabling more effective learning (Faiz, 2022).

One of the factors that determine students' learning outcomes or academic achievement is the learning process itself. A professional teacher will employ appropriate teaching techniques in the classroom. The alignment between the learning material and the instructional model used, as well as the suitability of the instructional model to students' characteristics, are among the aspects that teachers need to consider before teaching. One important student characteristic that requires attention is the students' learning style (Sari, 2014).

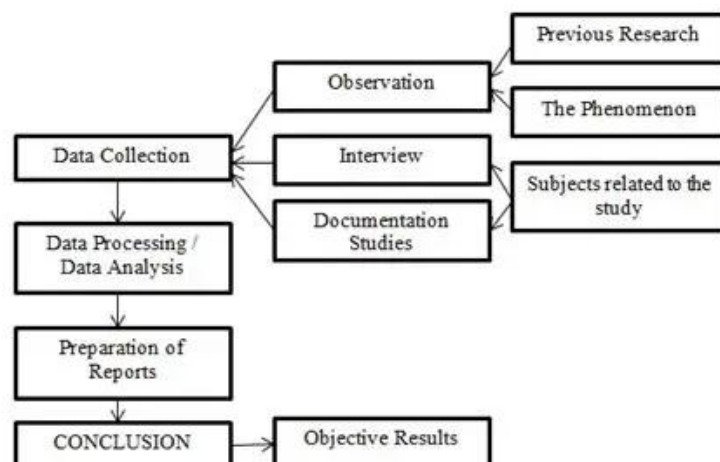
According to Kolb, a learning style is the preferred way an individual receives and processes information in their environment (Yulianci, 2020; Marpaung, 2016). Understanding students' learning styles enables teachers to provide a supportive environment and helps students absorb information more effectively (Widayanti, 2013). Therefore, teachers need to identify the type of learning style used by each student. Each student has a different learning style in receiving and understanding the lesson material. There are three types of learning styles: visual, auditory, and kinesthetic. Visual, auditory, and kinesthetic learning styles can influence students' learning outcomes or academic achievement (Azis, 2020). Based on the background described above, this study aims to analyze differentiated instruction according to the variety of learning styles among students in Class IV B at SDN Wonosari 01.

Research Method

The research method employed in this study is a qualitative survey with descriptive analysis. This study aims to analyze the implementation of differentiated instruction based on the variety of students' learning styles. The research instruments used include observation, questionnaires, interviews, and documentation. The subjects of the study consisted of 27 students from Class IV B at SDN Wonosari 01, selected to provide an overview of the variation in learning styles within the classroom.

The research data were obtained through direct observation of students' activities in the classroom, which was then reinforced by interviews conducted with both teachers and students. In addition, questionnaires distributed to students focused on identifying their individual learning styles, allowing researchers to determine their tendencies in absorbing the material. The process of completing the questionnaires and classroom learning activities was also documented

to strengthen the analysis results. With this combination of instruments, the study is expected to provide a comprehensive overview of the implementation of differentiated instruction in accordance with students' learning style characteristics.



Pic 1. Steps of Qualitative Research

Result and Discussion

The results of the study indicate that Class IV B at SDN Wonosari 01 already implements the Merdeka Curriculum. The essence of education is embedded within the curriculum and cannot be separated from it. Kamiludin & Suryaman (2017) The curriculum is defined as a set of educational programs that have been designed and implemented to achieve educational goals, containing components that are interconnected and mutually supportive. The Merdeka Curriculum serves as an option for schools that are ready to implement it as part of the learning recovery plan from 2022 to 2024 following the pandemic. However, for schools that are not yet prepared to implement the Merdeka Curriculum, alternative options remain available, including continuing with the 2013 Curriculum or using the Emergency Curriculum until an evaluation of the learning recovery curriculum is conducted in 2024 (Rahmadayanti & Hartoyo, 2022).

The advantage of the Merdeka Curriculum lies in its focus on essential content and the development of student competencies at each learning phase, allowing students to learn more deeply, meaningfully, and enjoyably without being rushed. Learning becomes more relevant and interactive through project-based activities, providing students with greater opportunities to actively explore current issues such as environmental and health concerns, supporting character development and the competencies of the Pancasila Student Profile. The goal of this instruction is to strengthen students' literacy and numeracy skills, as well as their knowledge in each subject area. The learning phase itself refers to the learning achievements that students are expected to reach, tailored to their characteristics, potential, and needs. The Merdeka Curriculum offers flexibility and a student-centered approach, allowing teachers and schools the freedom to determine appropriate learning methods (Manalu, 2022).

With the implementation of a learning system that emphasizes the development of students' character, assessment goes beyond merely ranking students. The Merdeka Curriculum places greater emphasis on recognizing and nurturing the talents and intelligences of each learner (Nasution, 2022). This is because students have varying abilities in their respective areas, making the implementation of differentiated instruction necessary (Wagner & Müller, 2008). This statement aligns with the theory of a psychologist named Bronfenbrenner (2019) He stated

that each child has different interests, talents, and cognitive abilities depending on the cultural background in which they are raised. Therefore, possessing strong pedagogical competence is essential for a teacher, as the quality of learning outcomes is determined by the quality of the teacher (Pradina et al., 2021). The new policy system related to the Merdeka Curriculum is expected to develop students who are workforce-ready, competent, possess strong moral values, and can contribute positively to their communities (Wahyuningsari, 2022).

Differentiated instruction is a method or effort undertaken by teachers to meet the needs and expectations of their students. This is in line with the view of (Tomlinson, 2000), Differentiated instruction is an effort to adjust classroom learning processes to meet the individual learning needs of each student. However, differentiated instruction does not mean that a teacher must teach in 27 different ways for 27 students, nor does it imply that teachers should increase the number of exercises for students who work faster than others. In differentiated learning, teachers must be innovative in selecting methods, models, and instructional strategies to better motivate students to engage in the learning process. Therefore, in the effort to improve the quality of classroom learning, the role of the teacher is crucial in determining the success of the instruction (Shihab, 2016).

The differentiated approach consists of three aspects: content differentiation, process differentiation, and product differentiation (Tomlinson, 2001). 1) Content differentiation refers to what students learn. Content is related to the curriculum and learning materials. In this aspect, teachers modify the curriculum and learning materials based on students' learning styles and any disabilities they may have. The curriculum content is adjusted according to students' conditions and abilities. 2) Process differentiation involves how students process ideas and information. It concerns how students interact with the material and how these interactions shape their learning choices. Due to the diversity of learning styles and preferences demonstrated by students, the classroom must be adapted in such a way that different learning needs are adequately accommodated. 3) Product differentiation refers to how students demonstrate what they have learned. Learning products allow teachers to assess the material students have mastered and provide subsequent instruction. Students' learning styles also influence the type of learning outcomes they present to the teacher (Wahyuni, 2022).

The variety of learning styles identified in Class IV B at SDN Wonosari 01 consisted of 15 students with a visual learning style, 7 students with an auditory learning style, and 5 students with a kinesthetic learning style. These results were obtained through student questionnaires, researcher observations, interviews with teachers and students, and documentation conducted throughout the study. Diagnostic assessments were also carried out, as they are specifically designed to identify students' competencies, strengths, and weaknesses, allowing learning to be tailored to their abilities and conditions. According to interviews with the teacher, reflections on diagnostic assessments were conducted prior to the implementation of differentiated instruction. The diagnostic assessments carried out were based on the teacher's experience (Jatmiko & Putra, 2022). Students with a visual learning style were the most prevalent in this class, while those with a kinesthetic learning style were the least common.

Students with a visual learning style prefer learning by seeing (e.g., diagrams, PowerPoint presentations, notes, maps, and graphic organizers). The visual learning style helps students focus their attention and concentrate on the material by observing, watching, or examining it. By seeing and observing the objects being studied while reading, students are able to concentrate better on the learning material, making it easier for them to understand and retain the content. This is supported by the opinion of Ahmadi, H & W, (2004) They stated that

individuals with a visual learning type learn more quickly from materials presented in written form, charts, graphs, or images. In other words, they find it easier to study content that can be seen using their sense of sight. Given this learning style, visual learners can be provided with materials that include numerous images or other visual media (Adawiyah, 2020).

Behaviorist learning theory also supports the visual learning style. Learning is considered a result of stimulus and response. Providing information through images or diagrams acts as a stimulus for visual learners, and the response to this information is reflected in their academic achievement. The instructional strategies used for visual learners include: 1) using visual materials such as pictures, maps, and diagrams; 2) using colors to highlight important points; 3) encouraging reading of illustrated books; 4) utilizing multimedia (audio-visual); and 5) guiding students to illustrate their ideas through drawings.

Auditory learners learn primarily through listening (e.g., lectures, reading aloud, listening to music). The auditory learning style emphasizes the sense of hearing. Learning through listening can be facilitated by using audio recordings, lectures, discussions, debates, and verbal instructions (Ula, 2013). Students with an auditory learning style are better able to absorb, process, and convey information through direct listening. They tend to learn or receive information orally. Auditory learners have strengths in their ability to hear, with the ear serving as a crucial sensory organ, as it transmits sound stimuli to the brain, where these stimuli are processed into meaningful information (Ibnu, 2014).

With an auditory learning style, students absorb and process information effectively through their sense of hearing, which contributes to achieving good academic performance. The instructional strategies for auditory learners include: 1) encouraging participation in class and at home; 2) reading learning materials aloud; 3) using music; 4) discussing ideas verbally; and 5) recording learning materials onto audio tapes to be listened to, for example, before sleep

Kinesthetic learners learn by doing, such as moving, stretching, and engaging in hands-on activities. The kinesthetic learning style involves learning through physical activity and direct engagement, which may include handling objects, moving, touching, and experiencing things firsthand (Ula, 2013). Students with a kinesthetic learning tendency prefer to learn or receive information through movement or touch. Kinesthetic learners often express themselves with statements such as, "That seems to make sense," "I have difficulty handling that problem," "Give me a concrete example," "I still haven't found certainty," "It seems I can hold onto that person's words," or "Let me try it first before drawing a conclusion." Such expressions are common among kinesthetic learners, as they reflect their desire to engage directly in activities to understand or learn something firsthand (Rembe & Yarni, 2019).

For students with a kinesthetic learning style, physical condition plays a crucial role, as they engage in learning through direct physical activity. When their physical condition is healthy, their learning process and outcomes run smoothly and optimally. Conversely, when they are not in good health, their learning process and results can be disrupted. Additionally, they may tire quickly, feel unmotivated, experience dizziness, become sleepy, and have difficulty absorbing the lesson when their physical condition is weak (Rijal & Bachtiar, 2015). By actively engaging in what they are learning, students are more likely to remember their learning experiences, which positively impacts their academic performance. The instructional strategies for kinesthetic learners include: 1) avoiding prolonged hours of forced study; 2) encouraging exploration of their surroundings; 3) suggesting chewing gum while studying at home; 4) using bright colors to highlight important points in reading materials; and 5) learning while listening to music.

Based on the explanation of the three aspects in categorizing students' learning styles, optimizing learning and achieving effective learning outcomes requires instruction that is developed according to students' individual needs (Suwartiningsih, 2021). Differentiated instruction can be implemented effectively when both teachers and students develop confidence in carrying out the learning process (Wulandari, 2022). There are key points in differentiated instruction according to Marlina et al., (2019) 1) In learning, differences are normal and carry their own value. Teachers implementing differentiated instruction in the classroom need to embrace and understand students with diverse experiences and varying learning techniques. Differences present both challenges and unique opportunities for teachers that must be respected; 2) Teachers must understand that each student has hidden potential and capacities. They should maintain a positive mindset, recognizing that a student's greatest strengths may still be undiscovered, and it is the teacher's role to uncover and nurture these potentials for optimal development; 3) Teachers have the responsibility as pioneers in facilitating students' success. In a differentiated classroom, student success is reflected in their growth toward achieving and surpassing established learning objectives. This growth does not occur by chance, but depends on the teacher's role in making informed decisions in lesson planning; 4) Teachers must have confidence in themselves, believing that in differentiated instruction, they serve as champions for all students.

Conclusion

Based on the study results, 15 students were identified as visual learners, 7 as auditory learners, and 5 as kinesthetic learners. These findings indicate that students have diverse learning needs, making differentiated instruction important for creating a more inclusive learning process. By adjusting learning activities to students' learning styles, teachers can help students participate more actively and understand the material more effectively. Therefore, these results can be used as a basis for planning classroom instruction and as a practical reference for other schools in implementing inclusive and student-centered learning.

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