

ANALYSIS OF THE EFFECTIVENESS OF IMPLEMENTING DIFFERENTIATED LEARNING BASED ON DAVID KOLB'S LEARNING THEORY IN INCLUSIVE SCHOOLS

Aulia Fitri Ani¹, Alfina Nur Lystiana², Aditya Dwi Romadhan³, Aslam Maulana
Akbar⁴, Fadlin Ade Isma⁵

^{1, 2, 3, 4, 5} Universitas Sebelas Maret, Surakarta, Indonesia

¹ auliafitri24@student.uns.ac.id, ² alfinanurlystiana@student.uns.ac.id,
³ aaditramadan666@student.uns.ac.id, ⁴ maulanaaslam@student.uns.ac.id,
⁵ fadlinadeisma@student.uns.ac.id

Abstract

This study aims to analyze the effectiveness of the implementation of differentiated learning carried out in various inclusive schools by looking at the implementation process and obstacles experienced. The study was conducted using the systematic literature review (SLR) method. Data collection techniques were carried out by selecting relevant literature from various scientific literature ranging from 2019 to 2024. Data analysis was carried out systematically by filtering articles based on the relevance of the title and abstract, followed by an in-depth review to find relevant data. The results of the study indicate that the implementation of differentiated learning is effective in helping diverse students understand the material in a way that accommodates differences in the learning process. However, the results of the study also show the need for teacher training and improved school facilities so that the process of accommodating different learning processes becomes more effective. In addition, holistic cooperation is needed from various elements so that the implementation of differentiated learning can be carried out effectively and sustainably.

Keywords: Differentiation, Inclusion, Learning, Education

Abstrak

Penelitian ini bertujuan untuk menganalisis efektivitas implementasi pembelajaran berdiferensiasi yang dilakukan di berbagai sekolah inklusi dengan melihat proses implementasi dan hambatan yang dialami. Penelitian dilakukan menggunakan metode systematic literature review (SLR). Teknik pengumpulan data dilakukan melalui pemilihan literatur relevan yang berasal dari berbagai literatur ilmiah dengan rentang tahun 2019 hingga tahun 2024. Analisis data dilakukan secara sistematis dengan menyaring artikel berdasarkan relevansi judul dan abstrak, diikuti dengan telaah mendalam untuk menemukan data yang relevan. Hasil penelitian menunjukkan bahwa implementasi pembelajaran berdiferensiasi efektif dalam membantu siswa yang beragam untuk memahami materi dengan cara yang akomodatif terhadap perbedaan proses belajar. Namun, hasil penelitian juga menunjukkan perlunya pelatihan terhadap guru dan ditingkatkannya fasilitas sekolah agar proses akomodasi proses belajar yang berbeda menjadi semakin efektif. Selain itu, perlu kerja sama yang holistik dari berbagai elemen agar implementasi pembelajaran berdiferensiasi dapat terlaksana secara efektif dan berkelanjutan.

Kata kunci: Diferensiasi, Inklusi, Pembelajaran, Pendidikan



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INTRODUCTION

Education is a step that aims to form humans with a sense of humanity through creation in accordance with the atmosphere, circumstances, and developments of the times. According to Law No. 20 of 2003 concerning the National Education System (SISDIKNAS), education can be understood as an effort that is both conscious and planned to build a constructive learning environment. Thus, students can actively develop their potential in gaining spiritual strength, self-control, character, intelligence, noble morals, and skills in themselves, society, nation, and state.¹

Basically, education can be classified into 3 main areas, namely formal, non-formal, and informal. Formal education can be understood as a learning process carried out in public schools and levels that are sequential and clear, starting from basic education to higher education.² Non-formal education is defined as a learning area that is implemented systematically and flexibly outside the formal education system.³ Meanwhile, informal education is understood as the transfer of knowledge that a person obtains through daily experiences, both consciously and unconsciously, from the time an individual is born until they die.⁴

Education in Indonesia has undergone quite significant developments from time to time. Various efforts of change and adjustment have been made, ranging from curriculum changes to strengthening education regulations. These efforts continue to be made to improve access and quality of education itself. Bambang in his writing explains that the government must be able to strive for equal opportunities for education and improve the quality, relevance, and efficiency of education management in a fair manner.⁵ This needs to be done in order to face the demands of existing changes so that with the renewal of the education system it will be planned, directed, and sustainable. The government must also conduct continuous evaluations to map the challenges that need to be faced in the education process in Indonesia in real time, such as the gap in access to education and the quality of education.

¹ I.Nyoman Temon Astawa, "Pendidikan Inklusi dalam Memajukan Pendidikan Nasional oleh I Nyoman Temon Astawa," *Guna Widya: Jurnal Pendidikan Hindu* 8 (2021): 65–76.

² Raudatus Syaadah et al., "Pendidikan Formal, Pendidikan Non Formal dan Pendidikan Informal," *PEMA (Jurnal Pendidikan dan Pengabdian kepada Masyarakat* 2, no. 2 (2023): 125–31, <https://doi.org/10.56832/pema.v2i2.298>.

³ Adelia Jihan Tiara Sari Ahmad et al., "Literatur Review: Tren Perkembangan Pendidikan Non-Formal di Indonesia," *Jurnal Pendidikan* 7, no. 2 (2022): 76–82.

⁴ I. Nyoman Temon Astawa, "Peran Orang Tua dalam Pendidikan Informal (Perspektif Pendidikan Agama Hindu)," *Jurnal Penelitian Agama Hindu*, 2022.

⁵ Bambang Hermanto, "Perekayasa Sistem Pendidikan Nasional untuk Mencerdaskan Kehidupan Bangsa," *Foundasia* 11, no. 2 (2020): 52–59, <https://doi.org/10.21831/foundasia.v11i2.26933>.

Education must be designed to be a universal facility so that all parties with various backgrounds can access it to develop their potential, including children with special needs.⁶ This is based on the large number of students with special needs in various regions of Indonesia, but the existence of special schools that provide educational services for people with disabilities is still very limited. This condition is evidence that the current education system is not inclusively accessible to various groups in Indonesia.

To answer the above problems, an inclusive education policy is needed to provide equality for Special Needs Students (PDBK) to access education in regular schools considering the limited number of Special Schools (SLB) in Indonesia. Inclusive education not only provides opportunities for equality, but also provides opportunities to socialize and develop with peers in a diverse environment. According to Yuliyus and Susilawati,⁷ the concept of inclusive education is an educational approach that does not differentiate students because each child has unique abilities within themselves. Inclusive education is rooted in the principles of human rights and a social model-based approach so that the education system must adapt to the needs of children, not the other way around.⁸

The implementation of inclusive education is not only limited to providing physical access to schools, but also involves a teaching approach that adapts to the needs of each individual.⁹ The implementation of inclusive education in schools must provide a good learning approach to meet the diverse learning needs of each student. Differentiated learning can be an alternative that is collaborated with inclusive education in presenting accommodative education. This is because the differentiation approach accommodates the diversity of students so that equitable learning can occur.

Differentiated learning in inclusive schools is a learning model designed to meet the needs of diverse students in one class, including students with special needs. In inclusive schools, students with various backgrounds, abilities, learning styles are accommodated in one class so that a learning model that is relevant to these conditions is needed. The results of the study Waton¹⁰ shows that the implementation of differentiated learning allows the learning process to take place according to the

⁶ Iin Rohmatul Marfu'ah et al., "Analisis Program Pendidikan Inklusif bagi Disabilitas di Kota Kediri dengan Perspektif Problem Tree Analysis," *ARIMA: Jurnal Sosial dan Humaniora* 1, no. 4 (2024): 178–89, <https://doi.org/10.62017/arima.v1i4.1100>.

⁷ Yuliyus and Nora Susilawati, "Culture & Society: Journal of Anthropological Research," *Culture & Society: Journal of Anthropological Research* 2, no. 3 (2021): 123–29.

⁸ Yuliyus and Susilawati, "Culture & Society: Journal of Anthropological Research."

⁹ Farah Arriani et al., "Education Compensatory in Early Childhood Education as Accommodation of Students with Special Needs," *Scientia* 2, no. 2 (2023): 20–26, <https://doi.org/10.51773/sssh.v2i2.247>.

¹⁰ Muhammad Nasrul Waton, "Implementasi Teknologi Pendidikan dalam Proses Pembelajaran Berdiferensiasi," *Abnauna: Jurnal Ilmu Pendidikan Anak* 2, no. 2 (2024): 53–65, <https://doi.org/10.52431/jurnalilmupendidikananak.v2i2.2251>.

needs of students that cover various aspects, such as students' interests and learning styles. With this approach, students' diverse learning needs can be optimally met. The end result is that students can optimize their unique abilities and potentials.¹¹ This approach not only strengthens inclusion, but also improves the quality of education by ensuring that every student can learn according to their varying abilities and pace.

Research conducted Sutrisno, Muhtar, and Herlambang¹² shows that school administrators must actively participate in determining and developing learning methods that can meet the needs of their students. This process is carried out by accommodating various talents and interests of students so that they feel supported in an environment that. This process also creates a feeling of being appreciated because the diversity of students is well accommodated, which is expected to create better learning motivation.

The above statement is further strengthened by the results of research conducted Kurniasandi et al.,¹³ that differentiated learning not only improves learning comprehension, but can also strengthen the relationship between teachers and students. Providing digital-based learning methods effectively can develop students' creative, critical thinking, and imaginative abilities. Students who are starting to be digitally literate also feel more appreciated and understood as well as more motivated in learning because the methods used are considered much more interesting and enjoyable.

Although the differentiation learning model is very relevant to be applied in learning with heterogeneous student composition, this model also has the potential for problems that cause inequality in learning output. Research results Rizka Apriana and Hindun Hindun¹⁴ shows that there are several pressing problems that cause learning failure in children with special needs in inclusive schools.. The difficulty of children with special needs in adapting to learning demands that often do not match their needs is a major problem in this case. This is because learning in an inclusive environment requires the ability to follow a general curriculum that may be too challenging for some children with special needs.

¹¹ Ilham Farid, "Strategi Pembelajaran Diferensiasi dalam Memenuhi Kebutuhan Belajar Peserta Didik di Sekolah Dasar," *Jurnal Pendidikan dan Konseling* 4 (2022): 1707–15.

¹² Lucky Taufik Sutrisno et al., "Efektivitas Pembelajaran Berdiferensiasi sebagai Sebuah Pendekatan untuk Kemerdekaan," *DWIJA CENDEKIA: Jurnal Riset Pedagogik* 7, no. 2 (2023), <https://doi.org/10.20961/jdc.v7i2.76475>.

¹³ Didik Kurniasandi et al., "Strategi Pembelajaran Berdiferensiasi dan Implikasinya untuk Menciptakan Pembelajaran yang Inklusi di Setiap Jenjang Pendidikan," *Jurnal Cerdik: Jurnal Pendidikan dan Pengajaran* 3, no. 1 (2023): 56–64, <https://doi.org/10.21776/ub.jcerdik.2023.003.01.06>.

¹⁴ Rizka Apriana and Hindun Hindun, "Penerapan Model Pembelajaran Berdiferensiasi pada Siswa Kelas VIII SMPLB di Sekolah Khusus (SKH) Insan Mulia Kabupaten Tangerang," *Simpati* 2, no. 1 (2023): 24–33, <https://doi.org/10.59024/simpati.v2i1.503>.

In addition, research conducted by Yulaichah, Mariana, and Puspita¹⁵ shows that although differentiated learning is able to provide a better understanding of knowledge for students. However, differentiated learning also has shortcomings in learning planning because it requires a more structured and measurable method so that it takes more time to prepare it. Holistically, teachers are required to pay attention to the physical, emotional, interests, and talents of students so that learning planning can be in accordance with the needs of their students. These things have proven to be the main obstacles in implementing differentiated learning.

Based on the background above, this article will try to analyze the effectiveness of differentiated learning in teaching and learning activities in inclusive schools using David Kolb's learning theory as an analytical tool. The purpose of the research conducted is to find out the updates that contain a set of data on differentiated learning in teaching and learning activities. This method is a new perspective in analyzing the impacts of the implementation of differentiated learning in inclusive schools. It is hoped that this article can provide an overview to find out the implementation of effective differentiated learning in inclusive schools. Not only that, this article is expected to be able to provide initial steps for schools to pay attention to the implementation of differentiated learning. With that, it can produce several objective solutions by each inclusive school based on research data.

RESEARCH METHODS

The literature study method is used as the main method in this research. Data is obtained from various library sources, such as books, related research results, articles, notes, and journals that are relevant to the problem being studied.¹⁶ The systematic research process starts from collecting, analyzing, to concluding data using the filtration analysis method to help find solutions to the problems being studied.¹⁷

Based on the results of the literature study through the Publish or Perish application, 50 relevant Scopus indexed literatures were obtained. The data was filtered based on the year of publication 2019-2024 and 30 literatures were obtained which will then be analyzed as a whole.¹⁸ The literature is relevant to the formulation of the problem in the form of: (RQ1) How can the

¹⁵ Siti Yulaichah et al., "Implementasi Pembelajaran Berdiferensiasi dalam Membangun Budaya Kelas di Sekolah Anuban Khon Kaen, Thailand," *JlIP - Jurnal Ilmiah Ilmu Pendidikan* 7, no. 3 (2024): 2319–30, <https://doi.org/10.54371/jiip.v7i3.3644>.

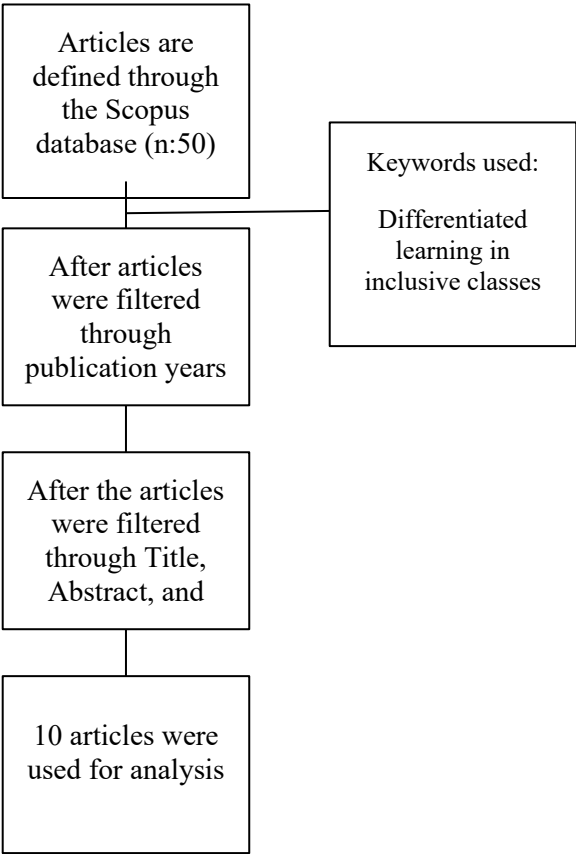
¹⁶ Milya Sari and Asmendri Asmendri, "Penelitian Kepustakaan (Library Research) dalam Penelitian Pendidikan IPA," *Natural Science* 6, no. 1 (2020): 41–53, <https://doi.org/10.15548/nsc.v6i1.1555>.

¹⁷ Ahmad Sulaiman and Siti Azizah, "Problem-Based Learning to Improve Critical Thinking Ability in Indonesia: A Systematic Literature Review," *Jurnal Pedagogik* 07, no. 01 (2020): 107–52.

¹⁸ Noah D. Forsat et al., "Recruitment and Retention of Older People in Clinical Research: A Systematic Literature Review," *Journal of the American Geriatrics Society* 68, no. 12 (2020): 2955–63, <https://doi.org/10.1111/jgs.16875>.

implementation of differentiated learning be implemented in accredited inclusive schools?; (RQ2)
What are the obstacles and shortcomings in the implementation of differentiated learning in the
classroom that need to be considered by the school?; (RQ3) How are the factors of differentiated
learning that have been prepared able to determine the effectiveness of the implementation of
teaching and learning activities and are able to receive special attention?

Diagram 1.Flow of collecting relevant articles



RESULTS AND DISCUSSION

The following table shows the researcher's findings from the articles that have been analyzed. Based on 30 articles that appeared in Scopus, the researcher only took 10 articles that were considered relevant to answer the previously formulated Research Question.

Table 1.Finding and searching for relevant articles

No	Article Title	Writer	Year	Review Results
1.	Beneath the surface of compliant pupil behavior: On how individuals in heterogeneous classes position themselves towards lessons' content-based requirements	Raphael Kossmann	2023	The study found two patterns of student approach: first, non-resistance engagement where students follow the lesson without enthusiasm; second, defensive distancing where students appear engaged but avoid deep understanding.
2.	Differentiated instruction for students with SEN in mainstream classrooms: contextual features and types of curriculum modifications	Vasilis Strogilos, Levan Lim, & Nasreena Binte Mohamed Buhari	2023	Contextual constraints in education often cause Different Instructions practices to be imbalanced, reducing their effectiveness in providing inclusive education. This research reveals tensions between principles and implementation, and the need to review practices to align with an ethos of inclusion.
3.	Inclusion of learners with learning disabilities in the Vaal Triangle mainstream classrooms	Nilford Hove & Nareadi T. Phasha	2023	Students with learning disabilities have the right to learn alongside their peers without disabilities, although this is a challenge, especially in Africa with its large student population. Solutions to this include

				tiered learning methods, assistive devices, differentiated learning, and code-switching.
4.	A systematic review of school-based social skills development of children with Autism Spectrum Disorder attending an inclusive preschool classroom	Stella Tsamitrou & Marie-Hélène Plumet	2023	Children tend to interact for learning purposes, although at first they often imitate and observe their peers. Interaction with responsive adults is also important because it can support their learning, mental health, and social skills.
5.	Social referencing processes in inclusive classrooms—Relationships between teachers' attitudes, students' attitudes, social integration and classroom climate	Jenny Lenkeit, Stefanie Bosse, Michel Knigge, Anne Hartmann, Antje Ehlert, & Nadine Spörer	2024	Finding that students' and teachers' attitudes toward students with special needs (ABK) affect social relationships and classroom atmosphere. Teachers also play an important role through cognitive attitudes, as role models in teaching how to interact well with ABK.
6.	Support services for learners with learning disabilities in mainstream	Nilford Hove & Nareadi T. Phasha	2024	Four support services were found for students with learning disabilities in general classes, namely: Classroom

	classrooms using capability theory			teaching/learning support, provision of material resources, referral for weaknesses in classroom support.
7.	Teachers' Perspectives on the Use of Differentiated Instruction in Inclusive Classrooms: Implications for Teacher Education	Charity Neejide Onyishi & Maximus Monaheng Sefotho	2020	This study discusses inclusivity in classrooms with students with mixed abilities based on academic achievement, gender, and age. Teachers need to provide differentiated instruction, provide personal guidance, and prepare appropriate learning media for all students.
8.	The inclusiveness of mixed ability groups in Johannesburg primary schools	Nilford Hove	2022	This study discusses inclusivity in classes consisting of students with mixed abilities, which include differences in academic achievement, gender, and age. In these classes, learning must be designed to meet the needs of each student, which poses challenges for teachers, such as providing varied instruction, individual guidance, and providing learning media that are suitable for all students.

9.	Unleashing the Potential: Exploring Attitudes and Overcoming Challenges in Implementing Differentiated Instruction in the Philippines' English Language Classrooms	Endro Dwi Hatmanto & Fitria Rahmawati	2023	Students in the Philippines have different learning styles. By recognizing the blended learning approach, teachers will be able to make the right decisions in dealing with the process, content, and assessment methods to address the unique challenges of each student.
10.	Variables that influence teachers' practice of differentiated instruction in Chinese classrooms: A study from teachers' perspectives	Meijie Bi, Katrien Struyven, & Chang Zhu	2023	Finding the importance of student pre-assessment to adjust differentiated instruction, so that teachers can understand students' readiness, interests, and learning styles. Teachers should develop learning methods that are student-oriented, not just curriculum-oriented. Regular collaboration between teachers on differentiation and curriculum adaptation is essential to understanding student characteristics.

How to Implement Differentiated Learning in Accredited Inclusive Schools

According to Hove and Phasha, schools in Africa implement tiered learning that uses teaching aids to implement differentiated learning. This effort is made to provide equal rights for the provision of education for all parties. However, it is a challenge in itself because it requires extra

effort considering the need for mapping so that learning is right on target. They overcome this by limiting the number of students per class to no more than 30 children. Then in group project assignments in class, they overcome this by dividing students into small groups of no more than 5 students in each group. This is considered effective by teachers to keep all students working and thinking critically. This method is also used in schools in the Philippines to create conducive classroom conditions so that students remain focused during classroom learning activities.¹⁹

Apart from the class management system, class atmosphere and integration also influence the implementation of differentiated learning.²⁰ The attitudes and responses shown by non-disabled children to children with disabilities affect the conduciveness of the class. Positive responses to students with disabilities make them feel accepted so that they can adapt and be motivated to learn. The role of teachers is very influential so that these ideal conditions can be created. Teaching affective values such as mutual cooperation, tolerance, and instilling sympathy and empathy can make non-disabled children want to mix and mingle with children with disabilities to create collective togetherness.

Hove and Phasha found that there are three types of support that can be applied to classes with students with disabilities, including: providing learning support, providing material resources, and providing referrals to students with disabilities.²¹ Learning support is related to providing guidance in learning. This can be in the form of achievement support for students with disabilities in optimizing their talents and interests. Then, the provision of varied material resources through videos, images, and content mastery can be chosen by teachers for variations in learning materials. Then, providing referrals to students who need them can provide them with guidance in improving their conditions. For example, providing psychological referrals to students so that they know their psychological development. The level of sympathy and empathy between students can also be known and trained in order to create harmonious togetherness in the classroom environment.

¹⁹ Endro Dwi Hatmanto and Fitria Rahmawati, "Unleashing the Potential: Exploring Attitudes and Overcoming Challenges in Implementing Differentiated Instruction in the Philippines' English Language Classrooms," *E3S Web of Conferences* 425 (2023), <https://doi.org/10.1051/e3sconf/202342502001>.

²⁰ Jenny Lenkeit et al., "Social Referencing Processes in Inclusive Classrooms—Relationships between Teachers' Attitudes, Students' Attitudes, Social Integration and Classroom Climate," *Journal of Research in Special Educational Needs*, ahead of print, 2024, <https://doi.org/10.1111/1471-3802.12703>.

²¹ Nilford Hove, "Support Services for Learners with Learning Disabilities in Mainstream Classrooms Using Capability Theory," *South African Journal of Childhood Education* 14, no. 1 (2024), <https://doi.org/10.4102/sajce.v14i1.1418>.

Types of Obstacles and Shortcomings that Schools Need to Pay Attention to When Implementing Differentiated Learning in the Classroom

The constraints in inclusive classes in implementing differentiated learning lie in the strategy for creating integrated learning with the inclusive learning environment itself. Contextual constraints in education often cause differentiated learning practices to be unbalanced and reduce the effectiveness in developing inclusive education.²² According to Hatmanto and Rahmawati,²³ there are five challenges that teachers must face when implementing differentiated learning, including: limited resources, time constraints, student diversity, assessment and evaluation for diverse students, and large, heterogeneous classroom management methods. In addition, teachers sometimes only provide examples that are not appropriate to the material being taught. Such obstacles cause the implementation of differentiated learning to be unbalanced.

Incomplete facilities, devices and resources in carrying out learning practices are also one of the obstacles in implementing differentiated learning. For example, the lack of teacher resources in schools reduces the estimated learning time. Learning is generally carried out for 90 minutes, but because teacher resources are lacking to carry out differentiated learning, the material presented is only limited to fulfilling obligations. In addition, the many diversities in the class also make it increasingly difficult for teachers to present effective differentiated learning with limited resources.²⁴

Factors that Determine the Effectiveness of Differentiated Learning

In differentiated learning, success is determined by two factors, namely internal factors and external factors.²⁵ Internal factors include interests, willingness, learning styles possessed by students. While external factors include the environment, process, and learning methods used by teachers to their students. These factors create various responses from each individual student in their involvement with learning materials.

²² Vasilis Strogilos et al., "Differentiated Instruction for Students with SEN in Mainstream Classrooms: Contextual Features and Types of Curriculum Modifications," *Asia Pacific Journal of Education* 43, no. 3 (2023): 850–66, <https://doi.org/10.1080/02188791.2021.1984873>.

²³ Hatmanto and Rahmawati, "Unleashing the Potential: Exploring Attitudes and Overcoming Challenges in Implementing Differentiated Instruction in the Philippines' English Language Classrooms."

²⁴ Meijie Bi et al., "Variables That Influence Teachers' Practice of Differentiated Instruction in Chinese Classrooms: A Study from Teachers' Perspectives," *Frontiers in Psychology* 14 (2023), <https://doi.org/10.3389/fpsyg.2023.1124259>.

²⁵ Suwartiningsih Suwartiningsih, "Penerapan Pembelajaran Berdiferensiasi untuk Meningkatkan Hasil Belajar Siswa pada Mata Pelajaran IPA Pokok Bahasan Tanah dan Keberlangsungan Kehidupan di Kelas IXB Semester Genap SMPN 4 Monta Tahun Pelajaran 2020/2021," *Jurnal Pendidikan dan Pembelajaran Indonesia (JPPI)* 1, no. 2 (2021): 80–94, <https://doi.org/10.53299/jppi.v1i2.39>.

Adorno explains about the types of individuals in education and the patterns of student involvement in learning can be used to highlight the importance of differentiated learning to increase the effectiveness of the Teaching and Learning process. (Kossmann 2023). First, there are the pseudo-cultured and free individuals. In education, Adorno distinguishes between individuals who are authentically engaged and those who merely demonstrate knowledge without the depth of cultural experience. The pseudo-cultured type often uses knowledge for competitive purposes without truly understanding it deeply, while the free individual engages emotionally and cognitively with culture or knowledge. Differentiated learning can help students become more like “free individuals” by providing in-depth and relevant approaches that match their interests, learning styles, and readiness. In this way, students not only “demonstrate” knowledge but also truly understand it authentically.

Second, student engagement patterns in learning. Studies of student engagement patterns, such as ‘non-resistance engagement,’ ‘defensive distance,’ and ‘offensive distance,’ suggest that students may engage in learning superficially without deep understanding. With differentiated instruction, teachers can more easily recognize and address these patterns through strategies tailored to each student’s needs. For example, students who tend to engage in “non-resistance engagement” can be helped with material that is more relevant to their interests, while those who exhibit “defensive distance” can be guided with approaches that facilitate deeper emotional engagement.

Third, the importance of understanding student reactions. As mentioned, it is important to understand student reactions beyond surface compliance in order to shape the desired character. Differentiated learning allows teachers to better understand students' characters and reactions in depth so that they can build a more meaningful learning process. In this way, factors in differentiated learning such as interests and learning styles will greatly determine whether teaching and learning activities can be carried out effectively or just "fulfilling tasks" without deep understanding. So, by implementing differentiated learning, teachers can overcome various types of student engagement and patterns of indifference that may arise. This shows that special attention to differentiation factors in learning will improve the quality and effectiveness of teaching and learning activities allowing students to learn more authentically and deeply.

The theory used as an analytical tool in this study is David Kolb's learning style theory. Learning styles according to David Kolb focus on a person's characteristics used in learning activities.²⁶ Students in participating in learning certainly have aspects that will later be able to influence the learning outcomes obtained, for example learning style. Learning style is one of the

²⁶ Startyaningsih, “Meningkatkan Literasi Baca Siswa Kelas 1 melalui Pendekatan Pembelajaran Diferensiasi Berbasis Aktivitas yang Beragam,” *Ejurnal.kampusakademik.co.id* 1, no. 4 (2024): 226–38.

internal factors that influence student learning outcomes.²⁷ The tendencies found in students in the learning process are what determine how fast or slow each individual receives knowledge from the teaching and learning process. Learning styles also provide diversity in the process of receiving and understanding material. Differences in learning styles of each student can be formed based on genetic factors received and environmental influences experienced every day.

Differences in learning styles can be overcome through the use of a variety of learning methods and approaches that are appropriate and accommodating to students' needs.²⁸ These efforts are expected to be able to help students achieve learning goals because the diversity of students can be accommodated well. To realize this, there needs to be involvement and adjustments in learning activities, resources, and support from parties so as to help teachers determine differentiated learning methods. The use of accommodating learning methods in providing meaningful experiences to each student in a diverse class.²⁹

The results of the research that has been conducted show that the application of differentiated learning focuses on how teachers facilitate the diverse needs of students, including abilities, interests, and learning methods. Not only that, according to Dewi Rahmadayani learning conducted in class needs to be adjusted to students' experiences outside the school environment, the application of learning styles, and special needs in supporting learning. Each student has their own uniqueness in responding to and accepting the learning that is carried out so that it cannot be equated between one student and another. This shows the importance of a flexible and adaptive approach so that learning objectives can be achieved as expected.

The learning style theory put forward by David Kolb explains that each individual has a unique way of processing information and learning experiences.³⁰ This learning style is influenced by four main stages: concrete experience, reflective observation, abstract conceptualization, and active experimentation. Understanding this learning style is important in education because it helps teachers recognize how students receive, understand, and utilize information optimally. This is very relevant in the application of differentiated learning that emphasizes adjusting learning strategies to students' needs.

In the context of differentiated learning in inclusive classes, the diversity of learning styles and abilities of students, both disabled and non-disabled, is both a challenge and an opportunity. As

²⁷ Elva Zuleni and Rona Rossa, "Perbedaan Individu: Inteligensi, Bakat, Gaya Belajar serta Implikasinya," *Educativo: Jurnal Pendidikan* (1) 3 (2024).

²⁸ Talabudin Umkabu and Nur'im Septi Lestari, "Strategi Pembelajaran Experiential Learning terhadap Peningkatan Akademik Siswa di SD Muhammadiyah Abepura," *EDUKASIA: Jurnal Pendidikan dan Pembelajaran* 4, no. 1 (2023): 459–68, <https://doi.org/10.62775/edukasia.v4i1.284>.

²⁹ Startyaningsih, "Meningkatkan Literasi Baca Siswa Kelas 1 melalui Pendekatan Pembelajaran Diferensiasi Berbasis Aktivitas yang Beragam."

³⁰ Zuleni and Rossa, "Perbedaan Individu: Inteligensi, Bakat, Gaya Belajar serta Implikasinya."

mentioned by Hove and Phasha that an effective approach is through small group-based classroom management and diverse teaching aids. This strategy allows students to learn in a heterogeneous environment, but remains focused on learning objectives. The integration of Kolb's learning style theory in differentiated learning can help teachers design activities that are relevant to students' conceptual learning styles, such as project-based assignments, small group discussions, or the use of multimedia. Then teachers can reflect on which learning is most appropriate to use in a class and the type of inclusivity.

The relationship between student learning styles and differentiated learning lies in the teacher's ability to understand the internal characteristics of students. As stated by Suwartiningsih³¹ that the success of differentiated learning is influenced by internal factors such as learning styles, interests, student motivation, as well as external factors such as teaching methods and learning environments. Kolb's theory provides a framework for observing by recognizing and utilizing student learning styles so that learning is not only a surface experience, but also creates results in the form of an authentic experience. This is in accordance with Adorno's idea of the importance of learning that allows student involvement emotionally and cognitively. Then these experiences can be a reference for data and a foundation for continuing to develop differentiated learning methods.

In practice, differentiated learning requires efforts to create an inclusive and adaptive learning environment. For example, by giving assignments that are relevant to students' interests or using various learning resources such as videos, images, or interactive materials. In addition, strengthening affective values such as tolerance, sympathy, and empathy in inclusive classes can help create harmonious relationships in inclusive classes that contain students with disabilities and non-disabilities. Teacher support is essential in ensuring that every student feels accepted and can learn optimally.

However, the implementation of differentiated learning also faces challenges, such as limited time, resources, and management of large and heterogeneous classes.³² Teachers often struggle to tailor learning to the needs of each student, especially if they do not deeply understand their students' learning styles. In such situations, pre-assessments become an important tool to diagnose students' readiness, interests, and learning styles. With this information, teachers can design more effective and efficient lesson plans, and ensure that all students achieve their learning goals. Overall, the integration of Kolb's learning style theory into differentiated learning provides a strong framework for supporting student diversity in inclusive classrooms. With this approach,

³¹ Suwartiningsih, "Penerapan Pembelajaran Berdiferensiasi untuk Meningkatkan Hasil Belajar Siswa pada Mata Pelajaran IPA Pokok Bahasan Tanah dan Keberlangsungan Kehidupan di Kelas IXB Semester Genap SMPN 4 Monta Tahun Pelajaran 2020/2021."

³² Hatmanto and Rahmawati, "Unleashing the Potential: Exploring Attitudes and Overcoming Challenges in Implementing Differentiated Instruction in the Philippines' English Language Classrooms."

teachers not only meet the individual needs of students but also create more personalized and meaningful learning, where students are deeply engaged in the learning process. This approach helps students develop from simply completing tasks to individuals who truly understand and utilize knowledge authentically.

CONCLUSION

The implementation of differentiated learning in inclusive schools is faced with various challenges and opportunities that affect the effectiveness of the teaching and learning process. Several countries such as Africa and the Philippines implement tiered learning and limit the number of students per class to create a conducive environment. Small group divisions for joint learning activities are also effective in helping all students participate in critical thinking, especially in heterogeneous classes that include students with disabilities and non-disabilities. The role of teachers is very important as a command, role model, and understanding to create an inclusive classroom atmosphere for their students in the classroom.

Difficulties in resources, time, facilities and experience are the main challenges for teachers in managing heterogeneous classes. They find it difficult to apply the material to real conditions in the classroom because the students' material also has demands to meet the learning objectives in the curriculum. Furthermore, learning in heterogeneous classes requires teachers to be able to understand the characteristics of each student. However, in accordance with David Kolb's theory regarding the importance of providing a variety of learning techniques, the provision of various effective learning methods and processes by teachers can be designed based on data owned by teachers after students have carried out pre-assessments or initial assessments. This method helps teachers in determining accommodating learning methods so that students authentically follow the learning well. This makes the teaching and learning process more meaningful, where students do not only follow the learning superficially, but really understand the content and objectives of the material. This method helps improve the quality and effectiveness of teaching and learning activities as a whole.

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