

Literature Review : Analysis of Differentiation Learning Towards Individual Needs of Elementary School Students

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Abstract

Basic education is an important stage in the formation of character and the development of children's potential. However, the diversity of individuals in the classroom is often a challenge for teachers in delivering material effectively. This study aims to analyze the application of differentiated learning in elementary schools and its impact on individual student needs. The method used is Systematic Literature Review (SLR), by collecting and analyzing relevant scientific articles. This study shows that the differentiation approach significantly increases the motivation, participation, and creativity of elementary school students. This study concludes that differentiated learning not only improves student learning outcomes, but also creates an inclusive and conducive learning environment. Therefore, continuous support for teachers and the provision of adequate resources are indispensable to achieve optimal outcomes in primary education.

1. Introduction

Basic education is a very crucial initial stage in the process of character formation, potential development, and intellectual foundation of a child. At this level, students begin to get to know the structured learning system, social values, and basic skills that they will need throughout life. As an early level of formal education, primary schools have a big responsibility in ensuring that every child gets a meaningful learning experience that is appropriate to their developmental stage. Thus, it is important for educators to pay close attention to the learning approaches and strategies used in order to be able to respond to various needs that arise in the classroom.

One of the challenges in the learning process in elementary school is the diversity of individuals in each class. Each student has a different background, both in terms of learning style, academic ability, interests, motivation, and readiness to learn. This difference is not an obstacle, but a wealth that, if managed appropriately, can be a force to create more effective and inclusive learning (Sri, 2024). In reality, not all students can participate in learning using the same method. Some students learn faster, while others need extra time and help to understand the material. Similarly, visual, auditory, and kinesthetic learning styles also affect how a student absorbs the information conveyed.

Differentiated learning emerged as one of the approaches that is able to answer the challenge of diversity in the classroom. Differentiated learning is an approach in education that is tailored to the content, process, and learning products of students with the needs, interests, and learning styles of students (Jumrawarsi, 2024). This approach aligns closely with constructivist theory, which emphasizes that learning is an active process in which students construct knowledge based on experience and social interactions. In practice, teachers are expected to map student characteristics and develop flexible strategies to ensure that all students can learn optimally. This approach places students at the center of learning, enabling them to learn in the ways that are most appropriate and effective for them.

The need to implement differentiated learning has become increasingly relevant since the enactment of the Independent Curriculum by the Indonesian government. The curriculum encourages the creation of a student-centered learning process, values the uniqueness of each individual, and emphasizes the importance of flexibility in learning. Within the framework of the Independent Curriculum, teachers are expected to be able to accommodate the diversity of students through personalized and adaptive learning (Soviyani, 2023). This is certainly in line with the principles of differentiated learning that prioritize justice in education through the fulfillment of the learning needs of each student individually.

However, although the Independent Curriculum has provided ample space for teachers to implement differentiated learning, its implementation in the field still faces various challenges. Not all teachers have an adequate understanding of the concepts and practices of differentiated learning. In addition, time constraints, administrative burdens, and lack of ongoing training are obstacles for teachers in implementing this approach optimally (Sitorus & Ratnawati, 2024). In some elementary schools, differentiated learning is still a theoretical concept that has not been fully implemented in daily learning practices.

The implementation of differentiated learning not only aims to improve student learning outcomes, but also to create an inclusive, equitable, equitable, and growth-oriented learning environment. By paying attention to the individual needs of students, differentiated learning encourages the creation of a more positive learning atmosphere as each student feels valued and supported in their educational journey. Teachers are also required to be more creative and adaptive in designing and implementing varied and contextual learning activities (Fernanda et al., 2020).

This research has been a concern for the past few years, several studies show that differentiated learning aims to meet the learning needs of students in elementary schools in the context of independent learning. (Rachmadyanti, P., Savira, S. I., Kholidya, C. F., Winingsih, E., Komalasari, D., & Saroinsong, W. P. 2024). Another study also found articles that discuss Student Needs and Student Learning Readiness Through a Differentiated Approach in Learning in Students (Dhera, M. M., Ti'a, E., Lawe, Y. U., & Sego, M. I. S. 2024). Therefore, this article will provide insight into differentiated learning to the individual needs of elementary school students.

This study aims to identify the application of differentiated learning in elementary schools and analyze the impact of differentiated learning on meeting individual needs of students. Is this approach able to significantly increase student understanding, motivation, and achievement? This question is important to answer in order to strengthen the argument about the urgency of differentiated learning at the elementary education level. The findings of this study are expected to provide an empirical basis for the development of education policies and the improvement of teacher competence in the future.

Thus, the formulation of the problem in this study includes two main focuses, namely the application of differentiated learning in elementary schools and how the approach is able to answer the individual needs of students. This research systematically explores the processes, challenges, and outcomes of the implementation of differentiated learning as an approach that is believed to create a more equitable, adaptive, and inclusive education for the diversity of student characteristics.

The benefits of this research are not only felt by academics, but also by education practitioners, especially elementary school teachers. This research provides new insights into the importance of building a student-centered learning strategy. Teachers can get practical references on how to implement differentiated learning in their classrooms, as well as understand how this approach can improve student engagement and learning success. This research also contributes as an important reference for further research that seeks to further examine the effectiveness of differentiated learning in the context of basic education.

LITERATURE REVIEW

Differentiated Learning Concept

Differentiated learning is an approach designed to meet the diverse learning needs of students in a classroom. According to Levy and Omema (in Alsubaie, 2020:159), differentiated learning is teaching and learning that allows students to learn subjects that suit their abilities, interests and needs, so that students do not get frustrated and feel alone and do not feel like they have failed to have the experience to learn it. According to Jumrawarsi (2024), differentiation is the adjustment of learning content, processes, and products based on students' interests, readiness, and learning profiles. This concept emphasizes that students are not uniform individuals, so it requires a varied approach to learning. By paying attention to differences in visual, auditory, or kinesthetic learning styles, teachers can create more effective and meaningful learning experiences.

Curriculum Support for Differentiation Learning

The Merdeka Curriculum as a national education policy in Indonesia provides a wide space for the implementation of differentiated learning. Hehakaya and Pollatu (2022) stated that the curriculum is a

crucial element that supports educational goals in Indonesia. In addition, the independent curriculum explains that the education system in Indonesia is undergoing a transformation to be better, although it is still in process. This curriculum encourages teachers to tailor learning based on student profiles. This is in line with the fact that differentiated learning is learning that is structured based on student learning profiles that aim to accommodate all student needs so that students can fully participate during the learning process (Ministry of Education and Culture, 2024).

2. Method

This study uses the qualitative method of Systematic Literature Review (SLR), which refers to the PRISMA flow. The researcher searched the literature through Google Scholar using the keyword "elementary differentiation learning" in the 2020-2024 range. In the process, the researcher follows the PRISMA flow which consists of several stages, namely:

1. Identification

At this stage, the researcher began searching for articles or journals relevant to the topic. The researcher used the keyword "differentiated learning in elementary school" and found 44 articles from the initial search results, using Google Scholar.

2. Screening

The collected articles were then reviewed. Articles with only citations or inaccessible content (18 articles) were removed from the list. The researcher then filtered the articles based on publication years 2020–2024, leaving 15 articles.

3. Eligibility

The researcher read the abstracts and brief contents of the remaining 15 articles to assess their suitability for the topic. Ten articles were selected because they addressed the topic with a clear and in-depth focus on differentiated learning in elementary school.

4. Included

At this stage, articles that passed the final selection were analyzed using a thematic analysis approach.

All selected articles were then analyzed using *thematic* techniques to identify the main themes related to the application and impact of differentiated learning in elementary schools. The selection of this SLR method aims to obtain a comprehensive understanding and in-depth synthesis of existing findings, thereby making a significant contribution to the development of adaptive learning practices that are responsive to the needs of students.

3. Results and Discussion

This study uses the Systematic Literature Review (SLR) method, by identifying and analyzing scientific articles that have been published in 2021-2024. The source of the article was obtained through Google Scholar, the researcher conducted a literature review study that was relevant to the article title. The ten articles selected were articles discussing differentiated learning to individual needs of students. The following is a table that presents the results of the research based on a literature review from national journal articles:

Table 1. Learning Differentiation to Individual Needs of Students

No.	Article	Research Methods	Findings
1	Application of a Differentiated Approach in Learning in Elementary Schools to Improve Critical Thinking Skills	Descriptive qualitative	Research shows that differentiated learning can significantly improve students' critical thinking skills. The strategies implemented include differentiation in content, processes, and products. Teachers adjust materials, methods, and assignments based on

	(Nur Fatimatuz Zahro, 2022)		students' needs, interests, and learning styles. Students show improved ability to identify problems, analyze information, evaluate arguments, and provide alternative and logical solutions. The students' response to this learning was also very positive, characterized by increased motivation and active participation in the learning process.
2	The Effect of the Implementation of Differentiated Learning on Meeting the Learning Needs of Elementary School Students (Pebriyanti, 2023)	Qualitative with Literature Review Methods	The results of the literature review show that differentiated learning has a positive impact on improving student learning outcomes in various aspects. This approach has been proven to be able to improve learning completeness, critical thinking skills, reading literacy, and mathematical reasoning. In addition, differentiated learning also encourages increased motivation and student involvement in the learning process. The application of this strategy is generally supported by diagnostic assessments that function to identify students' learning needs, interests, and learning styles so that teachers can design learning that suits the characteristics of each individual. Thus, differentiated learning is an effective approach to realize inclusive and student-focused learning.
3	Implementation of Differentiated Learning in Meeting the Learning Needs of Elementary School Students (Indriani et al., 2024)	Descriptive Qualitative	Research shows that the implementation of differentiated learning can significantly improve student learning outcomes. Four main strategies were applied: content differentiation with varied media, process differentiation through interactive learning and learning groups based on diagnostic tests, product differentiation with pop-up tasks as assessments, and environmental differentiation that creates a comfortable learning atmosphere. Students were grouped based on diagnostic test results, and this strategy successfully adjusted the learning needs of each group, leading to a significant improvement in learning outcomes.
4	Analysis of the Application of Differentiated Learning in Grade I Elementary School Based on the Independent Curriculum (Romlah & Adhi Suciptaningsih, 2023)	Descriptive Qualitative	Differentiated learning has a positive impact on students, increasing participation, creativity, and motivation to learn. Students with different individual needs, such as introverts, feel more comfortable participating through non-verbal methods, such as drawing or writing. The differentiation of learning products also encourages students' self-expression, resulting in unique and creative products. However, challenges arise in assessment due to differences in the way students express their understanding, which can lead to confusion in determining the focus of assessment. Nonetheless, differentiated learning increases student motivation by creating an inclusive and fun learning

			atmosphere, where students feel valued for their diverse learning styles.
5	Analysis of Differentiated Learning in the Independent Curriculum in Elementary Schools: Creating a Pleasant Learning Atmosphere (Soviyani & , Ihda Lailatul Barokah2, 2023)	Qualitative	Differentiated learning has a positive impact on students, such as increased understanding and confidence, where students with different abilities can learn according to their needs, either through additional support or further challenges. This approach also increases students' independence, as they can learn according to their own style and pace, which increases motivation to keep growing. In addition, differentiated learning creates a positive and inclusive learning atmosphere, students feel comfortable, get support, and are more involved in the learning process, thus creating a conducive and collaborative classroom atmosphere.
6	Analysis of Student Needs and Student Learning Readiness Through a Differentiated Approach in Learning to Students. (Dhera, M. M., Ti'a, E., Lawe, Y. U., & Seg0, M. I. S., 2024).	Skilled Worker	The teacher conducts an analysis through interviews taking into account the students' interests, profiles, and readiness before learning begins. These findings indicate the importance of implementing differentiated learning strategies to tailor materials, media, and learning approaches to individual student needs. The findings show that differentiated learning not only has a positive effect on students' creative thinking skills, but also improves the overall quality of the learning process.
7	Learning strategies are differentiated in meeting the needs of students. (Andarika, D. Y., & Rofiki, I., 2023).	Systematic Literature Review (SLR)	Differentiated learning strategies change the educational and learning process in the classroom aiming to meet the learning needs of each student. This approach not only allows for more varied teaching, but it also involves adjustments based on students' interests, learning styles, and readiness levels. In this way, learning is tailored to the needs of the individual, which in turn can have a positive impact on improving their learning outcomes.
8	Optimizing student needs and learning outcomes with differentiated learning. (Herwina, W., 2021).	Literature review	The findings show that in differentiated learning, teachers need to recognize the diverse interests and needs of students to design engaging and meaningful learning. In addition, differentiated learning allows students to choose how to express their understanding, such as through articles, songs, poems, posters, or videos, thus encouraging optimal learning outcomes according to each student's interests and skills. Differentiated learning provides facilities for motor learning through the process of stochastic resonance. In other words, the interaction between the internal circumstances of students and the learning environment can strengthen their potential.
9	Literature Review: A Differentiated Approach to Learning Solutions in	Systematic	The findings show that differentiated learning has proven to be very effective, this is reflected in the increase in students'

	Diversity (Wulandari, A. S., 2022).	literature review	understanding of each indicator that has been tested. In addition, differentiated learning is considered more interesting than other learning methods, because in the process, various learning media that suit the learning style of each student are provided, so that students become more enthusiastic about participating in the teaching and learning process.
10.	Differentiated learning strategies are able to improve students' learning comprehension. (Naibaho, D. P., 2023).	Systematic literature review	Differentiated learning showed the findings that profile data was obtained through a questionnaire of learning styles (auditory, visual, kinesthetic) as well as the cultural background and residence of students. The students seemed very enthusiastic in participating in the learning. This is because in the manufacture of products, they are often not given freedom, so the teacher only determines one option that must be followed by all participants.

Based on the ten selected articles, it can be concluded that the implementation of differentiated learning in elementary schools has a positive impact on the individual needs of students. Students are characterized by increased motivation and active participation in the learning process, creativity, and increased understanding. This learning uses a strategy of differentiating content, processes, products, and environments, which helps to adapt learning materials and methods to the needs and learning styles of students. According to research (Nur Fatimatuz Zahro, 2022), content differentiation is carried out by presenting different learning materials, according to the level of readiness of students. Meanwhile, process differentiation can be seen in a variety of tailored learning activities, such as group discussions aimed at students with good communication skills, as well as individual problem-solving for more analytical students (Tomlinson, 2005). As for product differentiation, it provides students with the opportunity to express their understanding in a variety of forms, such as essays, presentations, or creative projects. In addition, collaboration between teachers, parents, and schools has also proven to be important to optimize the implementation of this approach. It is also important for teachers to receive ongoing training and adequate support of facilities and resources, so that learning can take place effectively and create an inclusive and conducive learning atmosphere.

The application of differentiated learning in elementary schools is an effort to adapt the learning process to various different needs and characteristics of students. The application of differentiated learning is very relevant to the Independent Curriculum, which prioritizes freedom in the learning process. The Merdeka Curriculum provides flexibility in designing learning methods that are more in line with the uniqueness of each student. Differentiation approaches play a crucial role in creating a more inclusive learning experience, so that each student can learn according to their unique styles, interests, and abilities. By adjusting learning materials, processes, and products, differentiated learning plays an important role in supporting the achievement of the goals of the Independent Curriculum, which is to develop students' potential thoroughly and deeply (Romlah & Adhi Suciptaningsih, 2023).

The implementation of effective differentiated learning in elementary school requires a good understanding from teachers of student characteristics. This can be done through direct observation, diagnostic tests, or interviews with students to find out their needs and learning styles. In addition, teachers need to be equipped with training and supporting resources in order to optimize differentiation strategies in the classroom. Thus, the implementation of differentiated learning in elementary schools not only enriches students' learning experiences, but also contributes to the creation of a more equitable education that is in accordance with the individual needs of students.

In the differentiated learning process, various challenges are unavoidable. Based on Muliani's (2022) findings, these challenges stem from internal and external factors, such as:

- a) Teachers' limited understanding of the Independent Curriculum concept and differentiation strategies
- b) Limited time to map student needs
- c) Lack of supporting learning media and facilities
- d) Technological constraints, especially in schools with limited resources
- e) High teacher administrative burdens, reducing time for innovation

There are several steps teachers need to take to overcome these challenges, such as participating in the Teacher Mover program, discussions with colleagues, and changing teacher mindsets, which are key to overcoming these obstacles.

Besides differentiation, there are other learning approaches that also aim to increase engagement and meet individual student needs, such as project-based learning and inquiry-based learning. Compared to these two approaches, differentiated learning is more flexible because it allows teachers to tailor content, processes, and products to suit student characteristics. However, differentiated learning can be combined with Project-Based Learning (PjBL) or Inquiry-Based Learning (IBL) to create richer and more meaningful learning. For example, within a Project-Based Learning (PjBL) project, teachers can still differentiate tasks based on student interests and readiness.

3.1 Conclusion

Differentiated learning in elementary school has a positive impact on student learning outcomes. By tailoring the content, processes, products, and learning environment according to the needs and characteristics of students, this approach successfully increases students' motivation, participation, creativity, and critical thinking skills. While challenges in assessment and flexible classroom management remain, solutions involving teacher training, adequate provision of resources, and collaborative support between teachers, parents, and schools have proven effective. Therefore, it is very important for schools to continue to provide continuous training to teachers and strengthen learning facilities to support the implementation of more optimal differentiated learning.

Teachers need to be supported through regular training on applicable differentiation strategies, such as how to conduct diagnostic assessments to map student readiness and learning styles, as well as techniques for designing varied learning activities tailored to student profiles. Furthermore, schools need to provide a variety of learning media that support various learning styles and create a classroom environment that is flexible and responsive to individual needs. Strong collaboration between teachers, parents, and school officials is also crucial in planning and evaluating implemented differentiation strategies.

In future research, it is recommended to conduct quasi-experimental studies involving control and experimental groups to directly measure the effect of differentiated learning on student learning outcomes. Furthermore, studies focusing on the implementation of differentiated learning for students with special needs and its adaptation within the context of the Independent Curriculum would be highly beneficial in enriching inclusive education practices at the elementary school level.

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References

- Alsubaie, A. M. (2020). The Effectiveness of multiple intelligence based differentiated instruction on metacognitive reading comprehension in Arabic language among middle school students in Saudi Arabia. *Revista Amazonia Investiga*, 9(26), 158-166.
- Andarika, D. Y., & Rofiki, I. (2023). Learning strategies are differentiated in meeting the needs of students. *Journal of Economics, Business and Education (JEBP)*, 3(10), 5-5.
- Azmy, B., & Fanny, A. M. (2023). Literature review: differentiated learning in the independent curriculum of learning in elementary schools. *Inventa: Journal of Elementary School Teacher Education*, 7(2), 217-223.
- Dhera, M. M., Ti'a, E., Lawe, Y. U., & Segoo, M. I. S. (2024). Analysis of Student Needs and Student Learning Readiness Through a Differentiated Approach in Learning to Students. *Journal of Elementary School Teacher Education*, 1(4), 9-9.
- Enjelli Hehakaya, D. P. (2022). Problems of teachers in implementing the independent curriculum. *DIDAXEI Education Journal*, 3(2) 394-408.
- Fernanda, A., Ramadhan, R., & Saputro, B. A. (2020). *DIFFERENTIATED LEARNING ANALYSIS IN SCIENCE SUBJECTS*. 30(2), 201-210.
- Herwina, W. (2021). Optimizing student needs and learning outcomes with differentiated learning. *Perspectives on Educational Sciences*, 35(2), 175-182.
- Indriani, F. I. F., Prabaningtyas, A., & Kurniasari, C. (2024). Implementation of Differentiated Learning in Meeting the Learning Needs of Students in Elementary Schools. *Al-Azkiya: Scientific Journal of MI/SD Education*, 9(1), 16-34.
- Jumrawarsi. (2024). *ANALYSIS OF DIFFERENTIATED LEARNING IN MATHEMATICS LEARNING AT JUNIOR HIGH SCHOOL IN SOUTH COAST REGENCY*. 7, 10875-10883.
- Muliani, R. (2022). Overcoming Barriers to Differentiated Learning: Tips and Tricks for Teachers. 1-14.
- Mulyani, H., Auliya, S., & Darmayanti, M. Differentiated Learning in Elementary Schools: A Systematic Literature Review and Bibliometric Analysis. *Didactic Methodology*, 20(1), 15-25.
- Naibaho, D. P. (2023). Differentiated learning strategies are able to improve students' learning comprehension. *Journal of Creative Student Research*, 1(2), 81-91.
- Nur Fatimatuz Zahro. (2022). *THE APPLICATION OF A DIFFERENTIATION APPROACH IN LEARNING IN ELEMENTARY SCHOOL TO IMPROVE CRITICAL THINKING SKILLS*. 9(3).
- Pebriyanti, D. (2023). The Effect of Differentiated Learning Implementation on Fulfilling the Learning Needs of Elementary School Students. *Journal of Science and Technology*, 5(01), 89-96.
- Romlah, R., & Adhi Suciptaningsih, O. (2023). Analysis of the Application of Differentiation Learning in Grade I of Elementary School Based on the Independent Curriculum. *Journal of Islamic Education Counseling*, 4(2), 295-303.
- Sitorus, F. R., & Ratnawati, F. (2024). Challenges in the Implementation of the Independent Curriculum in Elementary Schools. *Journal of Educational :P Learning and Innovation*, 6(1), 16-23.
- Sopianti, D. (2022). Implementation of Differentiated Learning in Grade XI Cultural Arts Subject at SMAN 5 Garut. *Kanayagan-Journal of Music Education*, 1(1), 1-8.
- Soviyani, & , Ihda Lailatul Barokah2, R. D. P. & A. W. (2023). Implementation of Differentiated Learning in the Independent Curriculum in Elementary Schools. *Social, Humanities, and Educational Studies (SHES): Conference Series*, 6(3).
- Sri, S. (2024). Student diversity and fulfillment of curriculum targets. *Journal of Learning, Guidance, and Education Management*, 4(10).
- Wulandari, A. S. (2022). Literature review: A differentiated approach to learning solutions in diversity. *Journal of MIPA Education*, 12(3), 682-689.