

PROCEEDINGS OF THE 3RD INTERNATIONAL CONFERENCE ON ISLAMIC EDUCATION AND SCIENCE DEVELOPMENT (ICONSIDE)

Fakultas Tarbiyah dan Keguruan, Universitas Islam Negeri Mataram, Indonesia

10 May 2025 | e-ISSN 3064-2310 | Volume: 3

Available online at <https://proceeding.uinmataram.ac.id/index.php/iconside>

THE ROLE OF TEACHERS IN DESIGNING DIFFERENTIATED LEARNING TO FACILITATE STUDENTS' LEARNING STYLES IN ELEMENTARY SCHOOLS

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Abstract

Differentiated learning is designed to facilitate the diversity of students' characteristics, needs, and learning styles in the classroom. In elementary schools, implementing differentiated learning is important because each student has different potentials, interests, and learning styles. This study aims to describe the role of teachers in designing and implementing differentiated learning to meet students' learning needs based on their learning styles. This type of research is a literature study analyzing various research results and theories related to differentiated learning in elementary schools. Data collection methods include identifying keywords, searching for articles and literature in online databases, and selecting literature. Data analysis uses content analysis by identifying themes, grouping data, and synthesizing. Data validity is carried out by triangulating sources cross-checking between literature, peer review, and audit trail. The study results indicate that teachers have a strategic role in differentiated learning as facilitators, motivators, planners, and evaluators. Teachers face challenges in differentiated learning, such as time constraints, uneven understanding of concepts, and minimal institutional support. The alternative solution is professional training, flexible material development, and collaboration between teachers, students, parents, and the school community. Differentiated learning has been proven to create inclusive and meaningful learning experiences and equal opportunities for all students to develop academically and personally. Therefore, strengthening teacher capacity is the main key to the success of implementing differentiated learning in elementary schools.

Keywords: Role of Teachers; Differentiated Learning; Learning Styles; Elementary School

INTRODUCTION

Students have different characteristics and learning styles (Azizah et al., 2023). Learning style is how students learn and think (Cicilia & Nursalim,

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2023). Learning style is how students absorb and understand information used as an indicator for acting and relating to the learning environment. Students may find learning easier by taking detailed notes, listening to explanations, or practicing them directly (Dwi Retno Sriwahyuni et al., 2024). Learning style is also defined as the easiest way for students to obtain, absorb, and analyze the information they receive (Parwati, 2024). This learning style is how students learn and think in absorbing, organizing, and processing information.

In elementary school, students' learning styles are classified into visual, auditory, and kinesthetic learning styles (Latifah, 2023). Visual learning style is possessed by students who find it easier to grasp the teacher's explanation by seeing, remember more easily by seeing than hearing, prefer reading rather than being read to, like demonstrations, and prefer receiving instructions verbally. Students with this visual learning style are identical to shapes, colors, and lines (Sundayana, 2016). The auditory learning style is possessed by students who like explanations and information verbally. Teachers must be able to position themselves to speak clearly and well. Students with this auditory learning style easily memorize and are sensitive to speech they have heard (Konilah et al., 2022). The kinesthetic learning style is possessed by students who easily understand lessons when there is movement in the learning process. Students will easily understand the material if practiced directly (Amir, 2015).

The differences in students' learning styles above require teachers to be able to design adaptive learning so that student's learning needs can be met optimally. However, in practice, learning in elementary schools is still mostly uniform (one-size-fits-all) (Lessy, 2023). In other words, teachers tend to use the same methods and media for all students without considering the diversity of their learning styles. This condition can cause some students to have difficulty understanding the subject matter, reduce learning motivation, and impact uneven academic achievement in the class.

Differentiated learning is one alternative solution that can be applied to the problems above. Differentiated learning is a learning approach that adjusts the process, content, and learning products according to the needs, interests, readiness, and learning styles of students (Herwina, 2021; Wahyudi et al., 2023; Wulandari, 2022). In elementary schools, the implementation of differentiated learning can help teachers in creating an inclusive, fun, and

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effective learning atmosphere (Komara et al., 2023; Lestari et al., 2023; Marzoan, 2023; Prihandini et al., 2023; Sutrisno et al., 2023).

In addition, teachers also have an important role in designing differentiated learning (Nursulis & Muspawi, 2023). Teachers must be able to map student characteristics, design variations in learning activities, determine appropriate media, and prepare assessments that can facilitate the various learning styles of students above (Bestira et al., 2024). However, many teachers still do not properly understand the basic concepts and implementation of differentiated learning in the classroom. This is reinforced by research results (Dwi & Achmad Fathoni, 2025; Sinaga et al., 2025), which show that most elementary school teachers still face obstacles in designing learning responsive to differences in student learning styles.

In line with the implementation of the Merdeka Curriculum, which provides space for differentiated learning in elementary schools, the role of teachers as designers of adaptive and innovative learning is becoming increasingly important (Arisanti et al., 2024; Simanjuntak & Erni, 2024). Therefore, this study aims to examine the role of teachers in designing differentiated learning to facilitate students' learning styles in elementary schools and to analyze the obstacles and strategies applied in the process.

METHOD

This research is a literature study. The research was conducted by reviewing, analyzing, and synthesizing various research results, scientific articles, books, and official documents related to differentiated learning in elementary schools (Nur Latifah et al., 2021). The purpose of this study is to obtain a comprehensive picture of the role of teachers in designing differentiated learning to facilitate students' learning styles in elementary schools.

The data sources for this study are secondary data obtained from accredited national and international journal articles, reference books (Amelia et al., 2024) on the theory of differentiated learning, learning styles, and elementary education, proceedings of scientific seminars and conferences, and education policy documents, such as Permendikbud and teacher training modules. The criteria for this source are limited, such as: published within the last 10 years, relevant to the topic of differentiated learning, the role of teachers, learning styles, and elementary schools, published on trusted

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platforms such as Google Scholar, ResearchGate, DOAJ, and campus repositories.

The data collection method was carried out through several stages, namely: (1) identification of keywords, such as differentiated instruction, elementary school teachers, student learning styles, independent curriculum, and the role of teachers in differentiated learning; (2) searching for articles and literature in online databases (Google Scholar, DOAJ, ResearchGate, Sinta, Garuda); and (3) selection of literature based on inclusion criteria (relevance, year of publication, type of publication) and exclusion (literature outside the elementary school context or that does not contain empirical/conceptual data on differentiated learning) (Pratomo et al., 2024).

Data analysis using content analysis. This content analysis is carried out by (a) identifying important themes in each literature; (b) grouping data into categories, such as basic concepts of differentiated learning, the role of teachers in designing differentiated learning, differentiation models and strategies, and challenges and solutions to implementation in elementary schools; and (c) synthesizing the findings from various sources to produce systematic and integrative conclusions (Ramli, 2024).

Data validity is carried out by (1) source triangulation, namely comparing and confirming data from various types of sources (journal articles, books, policy documents); (2) cross-checking between literature to ensure consistency of information; (3) peer review or peer discussion with supervising lecturers or researchers in the field of elementary education to test the accuracy of data analysis and synthesis; and (4) audit trail, namely recording the process of searching, selecting, and analyzing literature systematically to ensure data traceability (La Eru Ugi, 2021).

FINDINGS AND DISCUSSION

The Role of Teachers in Designing Differentiated Learning in Elementary Schools

Teachers have a strategic role in designing differentiated learning that is responsive to students' learning needs in elementary schools. In this case, teachers act as planners, facilitators, and evaluators in designing varied learning, starting from mapping students' learning styles, determining strategies, selecting media, and preparing appropriate assessments. This also confirms that the role of teachers is very important in creating an adaptive learning environment through flexible and diverse learning designs. Based on the results of the following literature review, three

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articles explain the role of teachers in designing differentiated learning in elementary schools. These three articles can be seen in Table 1 below.

Table 1. Literature Review on the Role of Teachers in Designing Differentiated Learning in Elementary Schools

No.	Author Name	Journal Name (Year, Vol., No., Page.)	Article Title	Type of Research	Research Results
1.	Fitriyah Fitriyah & Moh Bisri	Jurnal Review Pendidikan Dasar: Jurnal Kajian Pendidikan dan Hasil Penelitian (2023, 9, 2, 67-73)	Pembelajaran Berdiferensiasi Berdasarkan Keragaman dan Keunikan Siswa Sekolah Dasar	Literature Review	The results of conceptual research reveal that there are objectives of differentiated learning, namely coordinating learning by paying attention to learning interests, learning readiness, and learning preferences; helping all students in learning so that all students can achieve learning objectives; increasing student motivation and learning outcomes; establishing a harmonious relationship between teachers and students so that students can be more enthusiastic in learning, helping students become independent students so that they become individuals who are accustomed to and also have an attitude of respecting diversity, increasing teacher satisfaction because there is a sense of being challenged to want to

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develop their teaching skills so that teachers will become more creative. It can be concluded that differentiated learning provides opportunities for students to be able to learn naturally and efficiently with teachers who can collaborate in the methods and approaches needed (Fitriyah & Bisri, 2023)

2.	Aditya Rini Kusuma ningpuri	Jurnal Didaktika Pendidikan Dasar (2024, 8, 1, 199-220)	Implementasi Pembelajaran Berdiferensiasi pada Pembelajaran IPAS Fase B Kelas IV Sekolah Dasar	Qualitative (Case Study)	<p>The results of this study are that at the planning stage, teachers mapped out students' needs, created teaching modules along with Learning Objective Flow (ATP), and determined Learning Target Completion Criteria (KKTP). Teachers implemented learning with a differentiated model based on content, process, and product according to the results of student diagnosis, namely visual, auditory, and kinesthetic. This study used diagnostic, formative, and summative assessments at the evaluation stage. It can be concluded that implementing differentiated learning is optimal and effective</p>
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(Kusumaningpuri,
2024).

3.	Diyanaxu Dwi Elviya & Wahyu Sukartiningsih	Jurnal Penelitian Pendidikan Guru Sekolah Dasar (2023, 11, 8, 1780-1792)	Penerapan Pembelajaran Berdiferensiasi dalam Kurikulum Merdeka pada Pembelajaran Bahasa Indonesia Kelas IV Sekolah Dasar di SDN Lakarsantri I/472 Surabaya	Qualitative Descriptive	The results of the study indicate that several stages must be met in differentiated Indonesian language learning, namely mapping the needs of students through diagnostic assessments, designing differentiated learning plans according to the needs of students, and evaluating and reflecting on the learning that has taken place. Implementing differentiated Indonesian language learning positively impacts students, as indicated by the increasing enthusiasm and enthusiasm during learning (Elviya & Sukartiningsih, 2023).
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From Table 1 above, it can be understood that teachers have a role in designing differentiated learning. The first study showed that teachers are strategic facilitators and motivators in differentiated learning. As facilitators, teachers coordinate the learning process by considering students' interests, readiness, and learning styles. This allows each student to get a learning experience that suits their needs to achieve learning objectives optimally. In addition, teachers also act as motivators who encourage students' enthusiasm for learning through harmonious and empathetic relationships. With this approach, students are not only helped in academic achievement but also grow into independent individuals with an attitude of mutual respect for diversity. For teachers, this role provides a positive challenge that encourages them to continue to develop their creativity and teaching competence. Thus,

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differentiated learning offers students a more natural and efficient space if teachers can collaboratively integrate appropriate methods and approaches.

The results of the second study explain that teachers act as planners and evaluators in implementing differentiated learning. As a planner, the teacher maps students' learning needs through an initial assessment, then compiles a teaching module that includes the Learning Objective Flow (ATP) and determines the Learning Target Completion Criteria (KKTP). Furthermore, the teacher applies a differentiated learning strategy based on three main aspects, namely content, process, and product, which are adjusted to the results of the student's learning style diagnosis, both visual, auditory, and kinesthetic learning styles. Then, as an evaluator, the teacher uses a comprehensive assessment approach, including diagnostic, formative, and summative assessments, to ensure student learning development and achievement.

The results of the third study showed that teachers play an important role as evaluators. This role is realized through mapping students' learning needs through a diagnostic assessment at the beginning of learning. Based on the assessment results, the teacher designs a learning plan adjusted to the student's needs. The teacher also conducts evaluations and reflections during and after the learning process to assess the strategies' effectiveness. This confirms that the teacher's evaluative role is not only important for improving the learning process but also has a direct impact on student learning motivation.

Teachers' Strategies in Facilitating Students' Learning Styles through Differentiated Learning

Teachers must have strategies to facilitate their students' learning styles. Students' learning styles in differentiated learning impact various learning activities that allow students to choose the learning method that best suits them. Teachers adjust materials and assignments based on their students' readiness and interests. Based on the following literature review results, three articles explain teachers' strategies for facilitating students' learning styles through differentiated learning. The three articles can be seen in Table 2 below.

Table 2. Literature Review on Teachers' Strategies in Facilitating Students' Learning Styles through Differentiated Learning

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No.	Author Name	Journal		Article Title	Type of Research	Research Results
		Name (Year, Vol., No., Page.)	Page.)			
1.	Dewi Nikmatul Latifah	LEARNING: Jurnal Inovasi Penelitian Pendidikan Pembelajaran Pembelajaran (2023, 3, 1, 68-75)		Analisis Gaya Belajar Siswa untuk Pembelajaran Berdiferensiasi dan di Sekolah Dasar	Qualitative Descriptive	The study results showed that the learning styles of class V B students of SDN Purwoyoso 04 Semarang City were visual 52%, auditory 29%, and kinesthetic 19%. Most students can easily learn and understand a discussion by reading or observing visual objects. Through differentiated learning, students will be facilitated in their learning process through varied learning activities by their learning styles (Latifah, 2023).
2.	Reza Widyawati & Putri Rachmadyanti	Jurnal Penelitian Pendidikan Guru Sekolah Dasar (2023, 11, 2, 365- 379).		Analisis Penerapan Pembelajaran Berdiferensiasi pada Materi IPS di Sekolah Dasar	Qualitative (Case Study)	The results of the study showed that teachers successfully implemented differentiated learning well. Teachers prepared by conducting diagnostic tests and then developing appropriate learning strategies. Content

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differentiation, process differentiation, and product differentiation were also carried out by teachers based on mapping student needs. Both teachers and students felt the positive impact of implementing differentiated learning. Teachers felt that students' learning needs were met, which was reflected in students' positive responses to the teaching (Widyawati & Rachmadyanti, 2023).

3.	Evi Agustina Silitonga & Ina Magdalena	PENSA (2020, 2, 1, 17-22)	Gaya Belajar Siswa di Sekolah Dasar Negeri Cikokol 2 Tangerang	Qualitative	The results of this study indicate that each student has a different learning style. Visual learning style means that students find it easier to receive material through their senses, and auditory learning style means that students find it easier to receive material through their sense of hearing. A kinesthetic learning style
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means students
find receiving
material through
body movements
easier (Silitonga &
Magdalena, 2020).

Based on Table 2 above, it can be understood that the teacher's strategy in facilitating students' learning styles through differentiated learning is first to identify them. The teacher recognized the students' learning styles in Class V B SDN Purwoyoso 04 Semarang City from the first study above. The identification results showed that 52% of students had a visual learning style, 29% had an auditory learning style, and 19% had a kinesthetic learning style. In other words, most students can easily learn and understand the subject matter by reading or observing visual objects. By knowing these learning styles, through differentiated learning, the teacher facilitates students' learning styles through varied learning activities that are by their learning styles.

The results of the second study showed that the teacher's strategy was to conduct a diagnostic test. With this diagnostic test, the teacher develops a learning strategy based on the students' learning styles. Here, the teacher adjusts based on the students' content, process, and product needs in differentiated learning. In this differentiated learning, teachers do not mean to differentiate students but rather provide differences in the learning process according to students' interests, profiles, and learning styles.

The results of the third study showed that the teacher's strategy is to implement the two techniques above, namely conducting identification and diagnostic tests on students. By knowing the different learning styles of students, teachers ensure their teaching strategies are appropriate. Students with a visual learning style mean that teachers provide students find it easier to receive material through their senses. Students with an auditory learning style mean that teachers ensure that students find it easier to receive material through their sense of hearing, and students with a kinesthetic learning style find it easier to receive material through body movements. Here, teachers will maximize their role in utilizing various methods, such as images, videos, group discussions, simulations, and educational games. Teachers also adjust materials and assignments based on students' readiness and interests.

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Teachers' Challenges in Designing and Implementing Differentiated Learning in Elementary Schools

Teachers face several challenges when designing and implementing differentiated learning in elementary schools. Teachers' challenges include limited understanding of differentiated learning, limited planning time, many students in one class, and limited supporting facilities and infrastructure. In addition, teachers also face difficulties in compiling varied and fair assessments for various types of student learning styles. Based on the following literature review results, three articles explain teachers' challenges in designing and implementing differentiated learning in elementary schools. The three articles can be seen in Table 3 below.

Table 3. Literature Review on Teachers' Challenges in Designing and Implementing Differentiated Learning in Elementary Schools

No.	Author Name	Journal		Type of Research	Research Results
		Name (Year, Vol., No., Page.)	Article Title		
1.	Femberianus Sunario Tanggur	HINEF: Jurnal Rumpun Ilmu Pendidikan (2023, 2, 2, 23-29).	Tantangan Implementasi Kurikulum Merdeka bagi Guru Sekolah Dasar di Wilayah Pedesaan Pulau Sumba	Qualitative Descriptive	The results of the study show that the challenges faced by teachers in differentiated learning are that teachers have not been able to analyze the characteristics of each student, the diverse backgrounds of students such as family background, environment, learning styles, interests, and talents, and mastery of prerequisite materials, making it difficult for teachers to analyze student character to be able to design learning,

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the minimal allocation of time in each learning schedule also has an impact on the difficulty of teachers in conducting diagnostic assessments for students and carrying out learning activities, teachers have difficulty determining the methods used to facilitate learning according to student needs (Tanggur, 2023).

2.	Oktavia Nur Hasanah & Sukartono	ELSE (Elementary School Education Journal): Pendidikan dan Pembelajaran Sekolah Dasar (2024, 8, 1, 204-213)	Penerapan Pembelajaran Berdiferensiasi dalam Kurikulum Merdeka pada Mata Pelajaran IPAS di Sekolah Dasar	Qualitative (Case Study)	The results of this study indicate that the main inhibiting factor in differentiated learning is that it takes longer (Nur Hasanah & Sukartono, 2024).
3.	Nishfatul Lailiyah & Sulthon Mas'ud,	Journal on Teacher Education (2024, 6, 2, 1-12).	Analisis Tantangan Guru dalam Menerapkan Pembelajaran Berdiferensiasi pada Kurikulum Merdeka di Sekolah Dasar	Literature Review	The study revealed various challenges for teachers, including difficulties in understanding and implementing the concept of differentiated learning, limited facilities, and infrastructure,

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difficulties in designing new methods that suit individual students, and challenges in managing diversity in the classroom. Other challenges include limited training, difficulties in conducting fair assessments, and minimal support from the school (Lailiyah & Mas'ud, 2024)

Based on Table 3 above, it can be understood that teachers face various challenges in designing and implementing differentiated learning in elementary schools. One of the main challenges is teachers' difficulty in analyzing individual student characteristics in depth. This is due to the very diverse backgrounds of students in terms of family, environment, learning styles, interests, talents, and mastery of prerequisite materials. This diversity makes it difficult for teachers to design appropriate learning designs.

In addition, the limited time allocation for each learning schedule is an obstacle in conducting comprehensive diagnostic assessments and implementing learning activities responsive to student needs. Teachers also have difficulty in determining appropriate learning methods to facilitate this diversity. Another major obstacle is that the time needed to implement differentiated learning tends to be longer.

In addition, many teachers still have difficulty understanding and implementing the concept of differentiated learning and face limited facilities and infrastructure. Teachers face challenges in designing methods that suit individual student needs and managing classroom diversity. Other challenges that are no less important are limited training, difficulty in conducting fair assessments, and lack of support from the school.

Teacher Solutions to Overcome Challenges in Implementing Differentiated Learning

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The above challenges can be overcome with alternative solutions in differentiated learning. The solution is improving teacher competence through training and workshops on differentiated learning, sharing good practices between teachers, utilizing simple media available in the school environment, and collaborating with other teachers to compile teaching materials. In addition, teachers can simplify the variety of activities while maintaining the principle of differentiation according to student needs. Based on the following literature review results, three articles explain teacher solutions for overcoming challenges in differentiated learning, as shown in Table 4 below.

Table 4. Literature Review on Teacher Solutions in Overcoming Challenges in Implementing Differentiated Learning

No.	Author Name	Journal Name (Year, Vol. No., Page.)	Article Title	Type of Research	Research Results
1.	Nur Aulia Heriani, Tessa Lonika Simanullang, Ekaristi Br Sembiring, Elsani Hutabarat, Joshua Manurung, Dwi Anisa Saraan, Lala Jelita Ananda, dan Asiah Ramadhani	Dinamika Pembelajaran: Jurnal Pendidikan dan Bahasa (2025, 2, 2, 74-81)	Analisis Tantangan dan Strategi Guru dalam Pembelajaran Diferensiasi Kurikulum Merdeka di SDN 106811 Bandar Setia	Qualitative	The study's results indicate that to overcome the challenges in implementing differentiated learning is to improve teacher competence, develop flexible materials, and use diagnostic assessments (Heriani et al., 2025).
2.	Rosmiati Rosmiati, Triman Juniarso, Feny Rita Fiantika,	Bima Abdi: Jurnal Pengabdian Masyarakat (2024, 4, 2, 115-122).	Workshop Peningkatan Kompetensi Guru dalam Pembelajaran Berdiferensiasi	Qualitative Descriptive	The results of this study indicate that workshops can improve teacher competence in implementing differentiated learning

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Erlin Ladyawati, & Arif Mahya Fanny	untuk Memenuhi Kebutuhan Peserta Didik	in elementary schools (Rosmiati et al., 2024)		
3. Saiful Almujab	Oikos: Jurnal Kajian Pendidikan Ekonomi Dan Ilmu Ekonomi (2023, 8, 1, 148-165).	Pembelajaran Berdiferensiasi: Pendekatan Efektif dalam Menjawab Kebutuhan Diversitas Siswa	Literature Review	The study results indicate that differentiated learning requires collaboration between teachers, students, and parents and support from the entire school community. With a deep understanding of the concepts and strategies of differentiated learning, schools can create meaningful, relevant, and inclusive learning experiences for all students. Thus, implementing differentiated learning is important in responding to student diversity needs and creating an inclusive learning environment. Every student has an equal opportunity to develop academically and personally (Almujab, 2023).

Based on Table 4 above, one of the main solutions to overcoming the challenges of implementing differentiated learning in elementary schools is improving teacher competency, developing flexible materials, and using appropriate diagnostic assessments. The research above also revealed that training such as workshops has proven effective in improving teachers' understanding and skills in implementing differentiated learning strategies. In addition, the success of differentiated learning is highly dependent on close

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collaboration between teachers, students, and parents, as well as overall support from the school community. With a deep understanding of the concepts and strategies of differentiated learning, schools can create meaningful, relevant, and inclusive learning experiences for all students. Therefore, implementing differentiated learning is very important to address the diverse needs of students and build an inclusive learning environment. Every student has an equal opportunity to develop both academically and personally.

CONCLUSION

Based on the analysis of several studies reviewed, it can be concluded that teachers play a central role in designing and implementing differentiated learning in elementary schools. These roles include functions as facilitators, motivators, planners, and evaluators. As facilitators and motivators, teachers are responsible for creating a learning environment responsive to differences in student learning styles and encouraging learning enthusiasm through an empathetic and supportive approach. Teachers also play an important role in helping students become more independent, appreciate diversity, and grow as active individuals in learning.

Furthermore, as a planner and evaluators, teachers map student needs through diagnostic assessments, compile teaching modules, and set measurable learning objectives. Teachers adjust learning based on identified visual, auditory, and kinesthetic learning styles and implement comprehensive assessments ranging from diagnostic, formative, and summative. The learning strategies focused on different content, process, and product aspects for each student according to their needs.

However, teachers also face many challenges in implementing differentiated learning, such as time constraints, difficulty in analyzing student character in depth, lack of facilities and training, and minimal support from the school environment. Therefore, solutions that can be implemented include improving teacher competence through training, developing flexible materials, and promoting collaboration between all elements of the school. With this strategy, differentiated learning can create a learning process that is more inclusive, meaningful, and adaptive to student diversity and ensure that each student has an equal opportunity to achieve their best potential.

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From this study, the researcher suggests that ongoing training is needed for teachers in implementing differentiated learning. In addition, support for facilities and collaboration from the school and parents is also necessary to create an inclusive, effective, and appropriate learning process for each student's characteristics.

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