

## Differentiated Learning: A Critical Analysis on the Conception of Differentiated Instruction and Its Practices in Indonesian Classrooms

### Pembelajaran Berdiferensiasi: Analisis Kritis terhadap Konsepsi Pembelajaran Berdiferensiasi dan Praktiknya di Indonesia

<https://doi.org/10.24036/pakar.v22i2.612>

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#### Abstract

*The curriculum must be able to accommodate the needs and characteristics of students. The new curriculum in Indonesia called the Merdeka Curriculum, advises teachers to implement differentiated learning. This research analyses the concept and practice of differentiated learning in Indonesia. The method used in this research is a Systematic Literature Review (SLR). Data sources were taken from Scopus and Google Scholar to search for literature regarding the conception of differentiated instruction and the practice of differentiated learning in Indonesia. The results show that the concept of differentiated learning is to give different treatment to students based on their needs and learning styles. Differentiated learning is divided into process, content, product and learning environment. Differentiated learning has been practised in some schools in Indonesia by teacher movers, but mostly in primary schools and inclusive schools. The reason is that many teachers in Indonesia still need to gain the knowledge and competence to implement differentiated learning in their classrooms. Therefore, this research will help teachers in Indonesia understand more about the concept of differentiated learning and adopt the best practices in their classrooms.*

**Keywords:** *conception, differentiated learning, practice.*

#### Abstrak

Kurikulum harus dapat mengakomodasi kebutuhan dan karakteristik siswa. Kurikulum baru di Indonesia, yang disebut Kurikulum Merdeka, menyarankan guru untuk menerapkan pembelajaran berdiferensiasi. Penelitian ini bertujuan untuk menganalisis konsep dan praktik pembelajaran berdiferensiasi di Indonesia. Metode yang digunakan dalam penelitian ini adalah Tinjauan Literatur Sistematis (SLR). Sumber data diambil dari Scopus dan Google Scholar untuk mencari literatur mengenai konsepsi instruksi berdiferensiasi dan praktik pembelajaran berdiferensiasi di Indonesia. Hasil penelitian menunjukkan bahwa konsep pembelajaran berdiferensiasi adalah memberikan perlakuan yang berbeda kepada siswa berdasarkan kebutuhan dan gaya belajar mereka. Pembelajaran berdiferensiasi dibagi menjadi empat jenis: proses, konten, produk, dan lingkungan belajar. Pembelajaran berdiferensiasi telah dipraktikkan di beberapa sekolah di Indonesia oleh guru penggerak, namun kebanyakan dilakukan di sekolah dasar dan sekolah inklusi. Alasannya adalah karena masih banyak guru di Indonesia yang belum memiliki pengetahuan dan kompetensi untuk menerapkan pembelajaran berdiferensiasi di kelas mereka. Oleh karena itu, penelitian ini akan membantu guru-guru di Indonesia untuk memahami lebih dalam tentang konsep pembelajaran berdiferensiasi dan mengadopsi praktik-praktik terbaik dari pembelajaran berdiferensiasi di kelas mereka.

**Kata Kunci:** konsepsi, pembelajaran berdiferensiasi, praktik.

## 1. Introduction

The rapid development of technology has impacted many aspects of life. It has changed the way people get work done, the way they think and the way they communicate with others. In education, technology has also impacted the way we teach. Nowadays, teachers must complement the teaching and learning process by using technology. Therefore, conventional learning methods are no longer appropriate in the 21st century. In addition, today's education should enable students to improve their 21st-century competencies: creativity, communication, collaboration and critical thinking skills (4Cs). However, instead of improving 21st-century competencies, many students in Indonesia still need to improve due to the impact of online learning during the COVID-19 pandemic.

Recently, to recover from learning losses, the Ministry of Research, Technology and Higher Education (Kemenristekdikti) has launched the Merdeka Curriculum, which advises teachers to apply different learning models in the learning process (Curriculum Standards and Education Assessment Agency, 2022). The curriculum is designed to teach students at the right level. Teachers are advised to conduct diagnostic assessments before teaching to identify students' prior competencies. By identifying students' prior knowledge or competencies, teachers can create several groups that are then taught differently called differentiated learning.

Several studies show that implementing differentiated learning remains a challenge. A study conducted in schools in Poland and Turkey showed that these challenges include: students' motivation to learn, students' emotional barriers, teaching large classes, differentiation, the need for quality in-service teacher professional development, high teaching hours, provision of pre-service teacher education, attractiveness of the profession, and incentives for career pathways (Michalak & Bavli, 2018). Furthermore, Lavania and Nor stated that the main factor causing the inadequate implementation of differentiated learning is teachers' need for more knowledge about differentiated learning strategies (Lavania & Nor, 2020). Alefsha and Al-Jamal suggested that in order to meet the challenges of teaching, teachers must implement learner-friendly teaching methods (Alefsha & Al-Jamal, 2019). Differentiated learning or differentiated teaching has been implemented in several countries, such as Australia, South Africa, the United States, and Malaysia (De Jager, 2013; Hasan et al., 2022; Mills et al., 2014; Morgan, 2014). Other research on differentiated teaching has also been successfully implemented in mathematics (Setyo et al., 2022). Therefore, this research will focus on differentiated teaching and present good practices for implementing differentiated learning based on the literature and studies in Indonesia.

## 2. Literature Review

In Indonesia, learning during the COVID-19 pandemic could have been more optimal, but it caused *learning loss*, as students could not achieve the desired learning objectives. Therefore, the Ministry of Education, Culture, Research and Technology launched an independent curriculum with holistic learning and *teaching at the right level*. After distance learning, learners' abilities become very diverse, so they need a learning approach that can facilitate their learning according to their learning style and competence, one of which is a differentiated learning approach (Morgan, 2014).

According to Tomlinson, differentiated teaching is a view or way of thinking that pays attention to each student's differences. This view is then applied to teaching methods to optimize the abilities and competencies of each student. Thus, differentiated teaching is not just a technique or strategy, but a philosophical approach that recognizes and appreciates the diversity of students' learning needs, and adapts teaching methods to meet these needs (Tomlinson et al., 2003). The

concept of differentiated learning is highly relevant to reducing challenges in the classroom. There are three ways to do differentiated learning, and teachers can create groups of students based on their competencies or preferences. Then, the groups are given different treatments. There are three options for differentiation: content (different topics), process (different strategies or methods), and product (different assessment techniques) (Curriculum and Education Assessment Standards Board, 2022).

Differentiated learning has four aspects, including: first, the content aspect, content differentiation here means differentiating the type of material, learning resources, the level of depth and breadth of the material, as well as the method of delivering the material. Second, the process aspect, process differentiation is related to how the material is delivered, it must be adjusted to the level of readiness and learning style of students. Third, the product aspect, the product here means student learning outcomes, how students show the abilities gained after learning, varied products can show students' understanding and creativity. Fourth, the learning environment aspect relates to the physical and psychological conditions of the learning environment that encourage learners to develop their potential (Tomlinson, 2001).

In this study, researchers will analyze some literature related to the concept of differentiated learning and research on good practices of differentiated learning in Indonesia. It is intended that the results of this literature research can be a reference for teachers and researchers about differentiated learning, especially in the context of learning in Indonesia.

### **3. Research Methods**

This study is qualitative research using Systematic Literature Review (SLR), where the researcher analyzes some literature related to the concept of differentiated learning and its practice in some classrooms in Indonesia. The keywords used in the literature search are differentiated learning and differentiated teaching, which are used interchangeably. In this systematic literature review, the research started by identifying articles related to the topic in Scopus and Google Scholar databases using the Publish or Perish (PoP) tool. There are three steps in mapping the literature: identification, filtering, and extraction.

#### **3.1. Identification Stage**

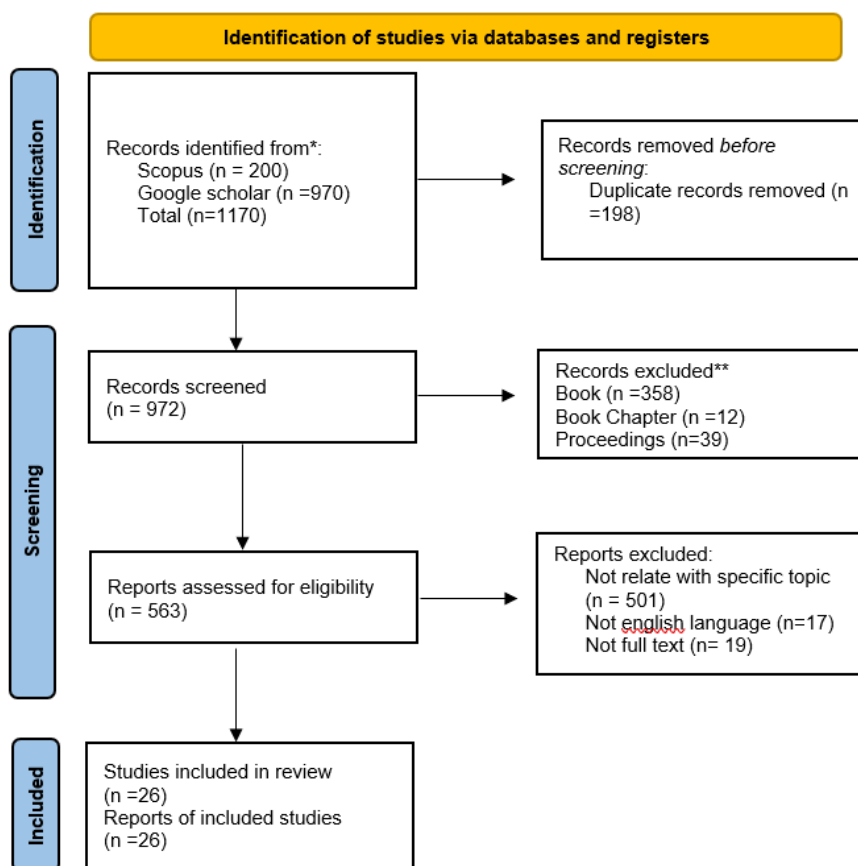
The literature used in this study is articles published between 2019 and 2023. Using PoP, the Scopus and Google Scholar databases quickly found relevant articles from various disciplines indexed by Scopus. Based on keywords, there were 1170 literatures from both databases. The criteria for included articles were journal articles published from 2019 to 2023, related to differentiated learning or differentiated learning concepts and practices, written in English. Meanwhile, the criteria for excluded articles were book chapters, books, proceedings, and reviews, published before 2019, not related to the research focus, and not written in English.

#### **3.2. Screening Stage**

Literature found from Scopus and Google Scholar databases was filtered through Zotero to identify duplicate articles. Then, articles were processed by title and abstract to map relevance to keywords and criteria for included and excluded articles.

#### **3.3. Extraction Stage**

The included articles were analyzed and extracted using Prisma Search Flow to help researchers find the relevance of the articles to the research questions.



**Figure.1.** Prisma Search Flow from Scopus and Google Scholar Database

Based on the Prisma Search Flow, out of 1170 articles related to differentiated learning or differentiated instruction, 198 were duplicates, and 409 were excluded because they were books and proceedings. A total of 537 articles were also excluded because they did not match the keywords, were not written in English, and did not have full text. There were 26 articles categorized as included articles, which were then analyzed based on the research focus.

## 4. Results and Discussion

### 4.1. Research Results

#### 4.1.1. Differentiated Learning Concept

According to Tomlinson, differentiated teaching is a philosophy or way of thinking that deals with student differences. This thinking is then adapted into teaching to maximize students' competence (Tomlinson, 2001). Furthermore, ASCD (*Association of Supervision and Curriculum Development*) defines differentiated teaching as a learning process that maximizes students' learning development by identifying their competencies and helping them achieve better ones. Differentiated learning is essential in teaching and learning because students have diverse academic abilities, learning needs, and learning styles. Hence, teachers must teach based on students' abilities and learning styles (Morgan, 2014). In addition, some differentiated learning practices in some countries are still a challenge for several reasons, such as difficulties in differentiation, financial problems, inadequate teacher preparation, lack of student motivation,

and inadequate teaching and assessment methods (Alefesha & Al-Jamal, 2019; Michalak & Bavli, 2018). These studies suggest that teachers should design student-friendly teaching methods. In other words, teachers should be able to accommodate different needs and learning styles so that EFL teaching and learning can meet expectations.

A review of the literature on differentiated learning in secondary education shows that high-quality research on this subject needs to be improved. Many studies use Information and Communication Technology (ICT)-based learning to facilitate differentiated learning (Smale-Jacobse et al., 2019). This study did not document the effectiveness of differentiated learning, but indicated that the use of differentiated learning can have a positive impact on student competencies for small to medium effects. The study also suggested some practical strategies, such as: assigning individual tasks with different amounts and times based on student levels, varying content, and grouping students based on readiness and interests.

Differentiated teaching has several advantages, namely the application of differentiated teaching can meet individual learning needs and allow teachers to conduct more effective monitoring (Van Geel et al., 2019). Therefore, teachers or instructors must identify students' learning needs and cognitive load. Klepsch and Seufert stated that students' cognitive load should be measured differently. Different measurements can help teachers to know students' previous competencies, optimize learning materials, and monitor the impact of instruction on student performance (Klepsch & Seufert, 2020). In addition, differentiated learning can help students perform better and improve their motivation, metacognition, and self-regulation (Haelermans, 2022).

On the other hand, differentiated learning also has some drawbacks, such as differentiated learning requires information from multiple sources about students' needs (Van Geel et al., 2019). Therefore, preparing the class takes a lot of time and effort. Before teaching, teachers must observe students' learning phases and decide the right strategy for heterogeneous students. In addition, teachers must also have sufficient ability to adapt instruction according to students' needs. Other challenges in implementing differentiated learning are: teachers' lack of knowledge about differentiated teaching, time constraints, class size, school administration/facilities, lack of resources, students, lack of teaching methodology, curriculum, personal characteristics, personal teaching beliefs, and the nature of differentiated teaching (Lavania & Nor, 2020).

#### **4.1.2. Differentiated Learning Practices in Indonesia**

Recently, the Merdeka Curriculum has been implemented in most schools in Indonesia. As stated in the Learning and Assessment Guidelines published by the Ministry of Education, Culture, Research and Higher Education, teachers are advised to use holistic approaches to teaching, such as project-based learning, problem-based learning and differentiated learning. According to Digna et al., teachers in Indonesia are very enthusiastic about training in implementing differentiated learning based on the Merdeka curriculum (Digna & Widyasari, 2023). However, many still need to understand differentiated learning better and thus have yet to implement it in their classrooms.

A study conducted in one of the high schools in Bandung showed that differentiated learning in a problem-based learning model is effective and positively impacts students' cognitive learning outcomes. The results showed that differentiated learning in the PBL model can produce better student cognitive learning outcomes than classes that only do PBL learning without differentiation (Dalila et al., 2022). Similarly, in Pasuruan, a lecturer-teacher partnership developed a differentiated learning plan by integrating problem-based learning, discovery learning, and scientific approaches. Learning materials were prepared in three forms: audio, video, and

presentation (content differentiation), different processes of different worksheets, the way students completed the tasks (process differentiation), and different products (Setyo et al., 2022). In addition, Tri et al. stated that driving teachers in Semarang-Indonesia provide students with differentiated content, processes, and products. The teachers applied different strategies for the same material, and learning tasks were also designed based on students' learning needs (Tri et al., 2023). In addition, a case study in Pandeglang showed that differentiation in products, such as posters, notice boards, democracy handbooks, and anti-bullying best practices can strengthen students' Pancasila profile (Usman et al., 2023).

Furthermore, Santoso et al. stated that differentiated learning can effectively address the diversity of students' needs and abilities. Teacher assessment plays an important role in implementing differentiated learning. Teachers should consider students' background knowledge to design teaching materials and monitor students' progress performance. Technology is recommended for teachers to facilitate differentiated learning (Santoso et al., 2022).

#### **4.2. Discussion**

After reviewing the 26 *included* articles, it can be concluded that the research trend related to differentiated learning in 2020 still focuses on students with learning difficulties. This research found that teachers are trying to find the right strategies to reduce students' learning difficulties. Differentiated learning has been suggested to be implemented, but only in some classes, and teachers still need to become familiar with the strategy (Nixon Dapa, 2020).

In 2020, some researchers began to analyze the concept of differentiated teaching (Klepsch & Seufert, 2020). The findings of these studies show the importance of identifying students' cognitive load before designing learning instructions. In other words, teachers or instructors should conduct diagnostic assessments before designing learning materials and activities so that learning materials and processes can meet students' cognitive load and learning needs. Furthermore, it was found that there needs to be more clarity between differentiated teaching and its implementation in the classroom. Theoretically, differentiated teaching should provide students with different tasks and materials according to their learning needs, especially for students with low ability or particular learning difficulties. However, teachers provide one task for all students in classroom practice due to limited knowledge of differentiated teaching. This study suggests professional teacher training for implementing differentiated teaching (Gaitas et al., 2022). However, this study must provide clear examples of successful teacher training programs implementing differentiated teaching.

Teacher mobilizers have implemented Differentiated learning in several primary schools in Indonesia (Mulyawati, 2022). The teachers believe that by doing differentiated learning, they can adequately treat students. Students with low competence will be taught according to their background knowledge, while students with good competence will be given enrichment to optimize their potential. Differentiated learning allows teachers to find appropriate student activities, materials and assessments. Some teachers in Indonesia have implemented differentiated learning strategies using project-based learning and different assessment tools (Marlina et al., 2023; Solehudin & Rochmiyati, 2023). However, both studies could have described the teaching and learning process or activities and the assessment process in detail. As a result, researchers cannot clearly describe how to analyze student competencies, how differentiated learning is implemented in the classroom, and how to differentiate learning assessment. In addition, articles written in Indonesian were not included in the review process, so the sources on differentiated learning practices in Indonesia are minimal.

As the Merdeka curriculum is implemented in Indonesia, teachers are advised to teach holistically, at the right level, and implement differentiated learning strategies. The results of this study will provide Indonesian teachers with deeper insights into the concept of differentiated learning and its practice in Indonesian classrooms. Teachers must be able to enhance students' potential. Each individual is unique. Therefore, they should be taught in different ways.

## 5. Conclusion

The Merdeka Curriculum has been implemented in many schools in Indonesia. As stated in the Learning and Assessment Guidelines issued by the Ministry of Education, Culture, Research and Higher Education, the learning process in the Merdeka curriculum must be holistic. Teachers are advised to use inquiry, project-based, problem-based, and differentiated learning. The first three strategies have been suggested in the previous curriculum. However, differentiated learning is something new for teachers in Indonesia. Therefore, it is crucial to analyze the concept of differentiated learning and its practice in Indonesian classrooms. The results show that the concept of differentiated learning is a teaching strategy that focuses on students' learning needs, teachers give different treatment to students based on their needs and learning styles.

Differentiated learning is divided into four types: process (different learning activities), content (different learning materials), product (different assessment) and learning environment. Differentiated learning has been practised in some schools in Indonesia by teacher movers, but mostly in primary schools and inclusive schools. The reason is that many teachers in Indonesia still need to gain the knowledge and competence to implement differentiated learning in their classrooms. Therefore, this research will give Indonesian teachers a deeper understanding of differentiated learning and its good practices in Indonesia. Differentiated learning is recommended in Indonesia to help teachers optimize students' potential.

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