
Challenges and Prospects of Differentiated Learning in Mathematics: Evaluation at Junior High Schools in Bima Regency

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Abstract. *This study aims to evaluate the implementation of differentiated instruction within the Merdeka Curriculum in mathematics learning at junior high schools in Bima Regency, Indonesia. A qualitative approach was employed, using in-depth interviews with teachers and school principals as the primary data collection technique. The findings reveal that teachers' understanding of differentiated instruction remains varied, with the majority focusing on content differentiation, while process differentiation is still limited, and product differentiation is barely implemented. The main challenges identified include limited instructional time, inadequate facilities, administrative burdens, and insufficient training. Nevertheless, even simple applications of differentiation were found to increase student participation, reduce achievement gaps, and foster learning motivation. These results highlight the positive prospects of differentiated instruction as a strategic approach to improving the quality of mathematics education, provided that teacher capacity is strengthened and supported by school policies as well as contextualized regional education policies. This study contributes to the discourse on inclusive teaching practices and offers recommendations for policy development tailored to local educational needs.*

Keywords: *Differentiated Instruction; Merdeka Curriculum; Mathematics; Inclusive Education*

INTRODUCTION

Differentiated learning is an approach that focuses on learning tailored to the needs, interests, readiness, and profiles of students. Tomlinson (2014) emphasizes differentiated learning in four aspects: content, process, product, and learning environment differentiation. In the Independent Curriculum, this principle is increasingly relevant because students are seen as unique with different learning needs (Marantika et al., 2023). Azmy and Fanny (2023) state that teachers respond to student diversity through variations in materials, activities, and assessments. Mbato (2024) adds that the differentiation approach also creates an inclusive

classroom climate. Yuniria and Atikah (2024) cite this approach as the core of the Independent Curriculum, as it provides teachers with space to design learning. Kurniawan (2025) states that differentiation helps teachers achieve curriculum targets without ignoring differences in ability. Jatmiko and Putra (2022) emphasize the importance of diagnostic assessments in designing appropriate strategies. So, differentiated learning is not just an additional method, but a learning paradigm that is student-centered and encourages students' meaningful mathematical abilities.

In the context of implementing differentiated learning in the Independent Curriculum, the term "challenges" refers to the various obstacles faced by teachers and schools in consistently implementing the principles of differentiation. These challenges include limited teacher pedagogical competence, limited resources, and limited structural and technological support from schools (Ananda et al., 2025). Other constraints include gaps in student literacy and numeracy (Syarifudin et al., 2024) and low technological literacy among mathematics teachers (Rini & Mandailina, 2024). Furthermore, differentiated learning encompasses increased learning motivation, critical thinking skills, and the achievement of more meaningful learning outcomes (Melati & Napfiah, 2025). This approach also helps students understand concepts through various media (Tomo et al., 2025) and enhances creativity and collaboration based on students' interests and learning styles (Riyannie, 2024). Furthermore, differentiation helps develop critical mathematical thinking skills as a 21st-century competency (Putra, 2021). Thus, although the implementation of differentiated learning in the Independent Curriculum is full of challenges, the prospects offered remain promising for the transformation of mathematics learning to be more humanistic, adaptive, and relevant to the needs of students in Bima Regency and in other regions.

Several studies over the past five years have shown that the implementation of differentiated learning in the Independent Curriculum has a positive impact on the quality of mathematics learning. Rosadi and Munamah (2023) revealed that differentiation strategies can increase student engagement in the learning process because they can learn according to their individual readiness levels and learning styles. The study highlighted how teachers who practice differentiation through

varied assignments, group discussions, and learning media successfully create a more interactive and inclusive classroom atmosphere. Rini and Mandailina (2024) also found that by utilizing a technology-based differentiation approach, students can more easily understand abstract mathematical concepts through digital visualizations and interactive simulations. These findings demonstrate that differentiated learning is not only a strategy for adjusting students' learning pace but also plays a crucial role in developing higher-order thinking skills, which are crucial for addressing the complexity of 21st-century mathematics problems.

Other research confirms that differentiated learning contributes significantly to improving mathematics learning outcomes and student motivation. A study conducted by Ulumiyah (2025) showed that a differentiation strategy, which provides a variety of problems based on complexity, consistently improves junior high school students' learning outcomes in algebra and geometry. This finding is reinforced by the findings of Aprilia (2024), who emphasized that low-ability students are more motivated to participate actively when given the opportunity to start with problems that match their level of understanding, while more complex problems challenge high-ability students. International research, such as that by Guo et al. (2022), also shows that differentiation can narrow the academic achievement gap between students with diverse backgrounds, especially in mathematics learning that demands a multilevel understanding. Furthermore, research by Umam et al. (2025) shows that well-designed differentiation not only impacts cognitive development but also increases students' confidence in facing mathematics material that is considered difficult.

Although numerous studies confirm the benefits of differentiated learning, its implementation in real-world contexts, particularly in junior high school mathematics, still faces various challenges. Research conducted by Ramadani (2025) found that most teachers still struggle to design learning tools that can simultaneously accommodate differences in student readiness, interests, and learning profiles. This obstacle is exacerbated by time constraints and high teacher administrative burdens, as revealed by Vian et al. (2025). International research by Tomlinson (2001) also confirms that teachers tend to adopt a partial differentiation

approach, for example, only adjusting the difficulty level of questions, without addressing aspects of teaching methods or evaluation. In the context of mathematics, a study by Deng et al. (2025) showed that teachers are often stuck in conventional patterns due to limited resources, resulting in suboptimal differentiated learning. Furthermore, research by Hasanah et al. (2023) highlighted the lack of intensive training and policy support, which leaves teachers feeling professionally unprepared to implement this strategy. Thus, although the prospects for differentiation in improving mathematics learning outcomes are very promising, the reality on the ground shows the need for ongoing support, both in terms of teacher training, provision of resources, and educational regulations.

Although various studies have demonstrated the benefits and challenges of implementing differentiated learning, in-depth studies, particularly in Bima Regency, remain very limited. Most previous research has focused on conceptual and implementation issues in urban areas with relatively adequate access to resources (Suryani et al., 2024; Chen et al., 2022). This focus creates a knowledge gap regarding how differentiation strategies can be implemented in areas with diverse social, economic, and cultural conditions, such as Bima Regency, which faces challenges such as limited learning resources, disparities in teacher quality, and highly diverse student backgrounds. A study by Ulumiyah (2025) did address differences in the outcomes of differentiation implementation in semi-urban areas. However, it did not specifically examine the dynamics of mathematics learning in rural junior high schools. Meanwhile, research by Hasanah et al. (2023) highlighted the importance of policy support but failed to link it to unique local contextual needs. Therefore, there is a research gap to explore further how differentiated learning in the Independent Curriculum can be implemented effectively in junior high schools in Bima Regency, so that it can provide a relevant empirical picture and contribute to the development of educational practices in areas with similar characteristics.

Based on the description above, this study aims to evaluate the challenges and prospects of differentiated learning in mathematics at junior high schools in Bima Regency within the Merdeka Curriculum framework. This evaluation is aimed at

identifying the extent to which differentiation strategies have been understood and implemented by teachers, how students respond to the approach, and the supporting and inhibiting factors that emerge in practice. This research is expected to provide theoretical contributions by strengthening the literature on the application of differentiation in areas with unique local characteristics, as well as practical contributions by recommending more adaptive and contextual learning strategies. Thus, the results of this study not only play a role in enriching the academic discourse on differentiated learning but can also form the basis for educational policies and teacher training at the local and national levels to ensure that the principles of fairness and meaningful learning are truly realized in mathematics learning.

RESEARCH METHODS

This research employed a descriptive qualitative approach with a case study method. This approach was chosen because the research focused on an in-depth understanding of differentiated learning practices in mathematics, the challenges faced by teachers, and the prospects for its implementation within the context of the Independent Curriculum. As emphasized by Creswell (2012), a relevant qualitative approach was used to explore the subjects' experiences in real-world situations holistically. The research locations were selected at several junior high schools (SMP) in Bima Regency that have implemented the Independent Curriculum. The research subjects consisted of 10 mathematics teachers (7 male and 3 female), as well as 6 principals, as both play strategic roles in the implementation of differentiated learning in schools. Subjects were selected using a purposive sampling technique, selecting participants deemed capable of providing rich and relevant information related to the research focus.

The data sources for this research consisted of primary and secondary data. Primary data were obtained from in-depth interviews with mathematics teachers and principals regarding their understanding, strategies, challenges, and prospects for differentiated learning. Secondary data was obtained through supporting documents such as the Lesson Implementation Plan (RPP), the Independent

Curriculum teaching module, and school regulations or policies related to differentiated learning. The main instrument of this research was the researcher herself, who played a role in planning, collecting, and analyzing the data. To support the data collection process, the researcher used a semi-structured interview guide compiled based on three main dimensions of differentiation: student learning readiness with sub-aspects (mastery of material and student understanding), interest with sub-aspects (interest in learning, and response to learning activities), and learning profile with sub-aspects (learning style). Data collection was carried out through three main techniques: interviews, observation, and documentation. In-depth interviews were conducted with mathematics teachers and the principal to obtain more detailed information. Limited observations were made during the mathematics learning process in the classroom on several sub-aspects, such as teacher-student interactions, the availability of learning facilities, and the use of technology to confirm the implemented differentiation practices. Meanwhile, documentation studies were conducted by reviewing teaching materials, school records, and policies related to the implementation of the Independent Curriculum.

Data analysis used the interactive model of Huberman and Miles (2002) which includes three stages: (1) data reduction, namely simplifying and grouping data according to the research theme; (2) data presentation, namely arranging data into narratives, matrices, or tables to facilitate interpretation; and (3) drawing conclusions and verification, namely formulating meaning based on the patterns, relationships, and trends found. To ensure the validity of the data, source and method triangulation techniques were used. Data from teacher interviews were verified with information from the principal and strengthened by the results of observations and documentation. In addition, researchers conducted member checking, namely asking respondents for confirmation regarding the interview results, so that the interpretation of the data remained in accordance with the reality they experienced. The following is an image of the Miles and Huberman data analysis technique model.

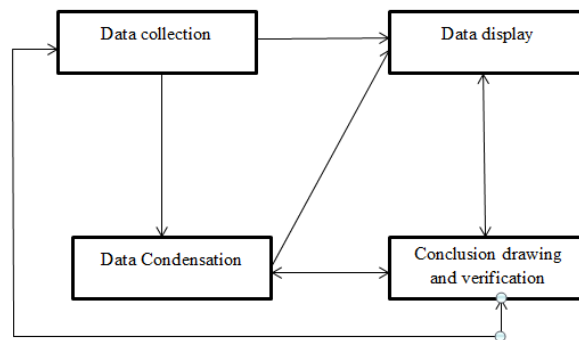


Figure 1. Miles and Huberman's data analysis model

RESULTS AND DISCUSSION

This section presents research findings regarding the implementation of differentiated learning within the Independent Curriculum in mathematics at junior high schools in Bima Regency, obtained through in-depth interviews with teachers and principals. The presentation of the results focuses on teachers' understanding of the concept of differentiation, the forms of implementation used, challenges faced in teaching practice, and the prospects emerging from the implementation of this strategy. The following is documentation of the interview with one of the principals.



Figure 2. Interview with one of the teachers

1. Teacher Understanding of Differentiated Learning

The interview results indicate that teachers' understanding of differentiated learning varies. Some teachers are able to explain basic concepts by linking them to adapting learning strategies to students' abilities. However, others still understand differentiation only as providing questions with varying levels of difficulty. The following question was asked: *"What is your understanding of differentiated learning in the Merdeka curriculum?"* One math teacher stated, *"For me, differentiated learning means providing easy, medium, and difficult questions according to students' abilities. So students can choose according to their level."* This statement shows that teachers interpret differentiation only in the realm of question variation, not as an overall learning strategy.

Meanwhile, a teacher S added: *"I once participated in the Independent Curriculum training, where it was explained that differentiation is not only about questions, but also about teaching methods and assessment methods. However, I cannot do everything in class."* This quote shows an awareness of the dimensions of differentiation in content, process, and product, but implementation is still limited to certain aspects. This is in line with the opinions of Tomlinson (2017) and Santangelo & Tomlinson (2012) that differentiation is not just a variation of questions, but rather a comprehensive approach that includes strategy, process, and assessment.

These findings confirm that the quality of teacher understanding is crucial to the success of differentiation. Teachers who fully understand differentiation are more likely to implement diverse strategies, while teachers with limited understanding tend to make only minor modifications to materials or questions. Therefore, even if teachers' understanding has begun to develop, reinforcement through ongoing training is needed to ensure the concept of differentiation is truly internalized and reflected in daily learning practices.

2. Differentiation Implementation Strategies in Mathematics Learning

The following are the results of an interview with Teacher E:

Question: "What differentiation techniques do you typically use: content, process, product, or environment?"

Teacher E: "The technique I typically use in differentiated learning is content types that take into account students' varying abilities. I rarely use other types of differentiation."

The interview results indicate that the most frequently used differentiation strategies include varying questions based on difficulty level (easy, medium, or difficult) and grouping students based on academic ability. However, interest-based differentiation and learning profiles are still rarely used because teachers struggle to design activities that address the diversity of students' learning styles.

This finding is consistent with research by Rosadi & Munamah (2023), which emphasized that teachers tend to choose simple and easy-to-implement differentiation strategies, such as varying questions. However, the study by Bi et al. (2023) shows that effective differentiation involves more than just varying difficulty levels; it also involves varying teaching methods, media, and assessment formats. According to Ahmed & Osman (2020), implementing interest-based differentiation and learning profiles can increase students' intrinsic motivation, particularly in subjects considered difficult, such as mathematics. Therefore, teachers' strategies in Bima need to be expanded to focus not only on content differentiation but also on the learning process and the final student product.

3. Teacher Challenges in Implementing Differentiated Learning

The following is an interview with Teacher T:

Question: "What are the most common obstacles you face in implementing it?"

Teacher T: "The obstacle I experienced during implementation was that designing differentiated learning requires significantly more preparation than conventional learning. Teachers need extra time to create or adapt materials, activities, and assessments for different levels or learning styles. Inadequate school facilities, especially textbooks relevant to the subject matter, often pose a challenge amidst busy teaching schedules and other administrative tasks."

The interview results indicated that teachers face several key challenges in implementing differentiated learning. First, time constraints are a barrier, as teachers find it difficult to design different teaching materials for each group of students within a limited time. Second, the high administrative burden causes teachers to prefer conventional learning strategies over designing complex learning. Third, there are limited resources, both in terms of learning media and classroom facilities, making it difficult to implement a variety of strategies. Furthermore, teachers also highlighted the lack of training and mentoring related to the implementation of differentiation, leading them to feel they lack adequate competency.

These findings align with research by Yogi (2025), which shows that teachers in Indonesia still struggle to develop comprehensive differentiated learning tools due to their high workload. Raihan (2025) also emphasized that time and administrative constraints are dominant factors hindering teacher innovation in the classroom. Furthermore, Tomlinson (2020) emphasized that differentiation often fails to operate optimally because teachers tend to implement only a small portion of the differentiation aspects. Research by Su et al. (2024) reinforces these findings by showing that limited facilities and resources lead teachers to prefer traditional learning models. Meanwhile, Hasanah et al. (2024) added that the lack of policy support and intensive training makes teachers feel professionally unprepared. Thus, the challenges faced by teachers in Bima Regency illustrate the urgent need for training, resource provision, and supportive policies to ensure the effective implementation of differentiated learning.

4. Prospects for Differentiated Learning in Improving Mathematics Learning Outcomes

The following is an interview with Principal N:

Question: "What strategies do you use to overcome these obstacles? In your opinion, is differentiated learning worth continuing?"

Principal N: "My strategy for overcoming obstacles in differentiated learning is to focus on thorough and adaptive planning (creating tiered lesson plans/learning

modules, prioritizing critical topics), effective classroom management (clear rules, the role of peer tutors, flexible grouping), the use of technology (digital platforms), and collaboration with fellow teachers. I believe that differentiated learning is highly feasible and essential to continue implementing. This is because this approach values the uniqueness of each student, increases motivation and engagement, maximizes student learning potential, and creates an inclusive learning environment, in line with the demands of the Independent Curriculum. Despite the challenges, the long-term benefits for students are far greater."

Although teachers face challenges in its implementation, interviews also revealed that differentiated learning holds promising prospects for improving the quality of mathematics learning in junior high schools in Bima Regency. Several teachers reported that when they tried varying the questions or grouping students based on ability, they saw an increase in student participation, especially for previously passive students. Teachers also believed that differentiation can reduce the learning gap, as low-ability students can learn according to their capacity, while high-ability students continue to receive appropriate challenges. The principal added that the prospects for differentiated learning are greater if supported by teacher training, the use of learning technology, and flexible school policies.

These findings are supported by research by Atmojo et al. (2024), which shows that differentiated learning can improve students' academic achievement in complex mathematics. Raihan (2025) added that differentiation provides opportunities for low-ability students to continue to participate actively, while encouraging high-ability students to develop further. Ahmed & Osman (2020) emphasized that differentiation not only impacts academic outcomes but also fosters students' confidence in mathematics. An international study by Rastini (2025) shows that differentiation can narrow the academic gap between students from diverse backgrounds, a matter relevant to the conditions in Bima Regency. Therefore, the prospects for differentiated learning in Bima are very positive, provided there is systematic support from schools and policymakers to strengthen teacher competencies and provide adequate resources.

5. The Principal's Role and Policy Support in Differentiation Implementation

From the interviews, principals emphasized that the success of differentiated learning is largely determined by managerial support and school policies. Several principals at junior high schools in Bima Regency stated that they have provided space for teachers to develop teaching materials tailored to the characteristics of their students. However, they also acknowledged that there are still limitations in terms of facilities, training, and monitoring of classroom implementation. Principals view the implementation of the Independent Curriculum as a significant opportunity to integrate differentiation; however, without clear internal policies and ongoing mentoring, teachers often revert to conventional approaches. Therefore, principal support through flexible policies, provision of resources, and encouragement of innovation are key factors in the success of differentiation.

These findings align with research by Ahmed & Osman (2020), which emphasized that the principal's role as an instructional leader is crucial in ensuring effective differentiation in the classroom. Research by Wardani and Setiawan (2022) also shows that teachers who receive managerial support from the principal are better able to develop innovative teaching materials, despite limited time and resources. Internationally, a study by Tomlinson (2017) emphasized that adaptive school policies encourage teachers to be more confident in trying various differentiation strategies. Research by Raihan (2025) even noted that without the support of the principal, teachers tend to stop at partial differentiation that has little impact. Therefore, it can be concluded that the principal plays a catalyst in building a school culture that supports the optimal implementation of differentiated learning in Bima Regency.

6. Sintesis Synthesis of Findings: The Relationship between Challenges and Prospects

Overall, the research results demonstrate an interesting dynamic between the challenges and prospects of implementing differentiated learning in mathematics in junior high schools in Bima Regency. On the one hand, teachers face various obstacles, such as limited time, administrative burdens, minimal training, and

limited learning resources. These obstacles lead teachers to tend to only apply differentiation to certain aspects, particularly varying problem difficulty levels. However, on the other hand, simple practices that have been implemented show positive prospects, including increased student participation, reduced achievement gaps, and increased motivation to learn mathematics. This confirms that differentiation has significant potential to strengthen the implementation of the Independent Curriculum, but requires more systematic support strategies.

This synthesis is reinforced by research by Ahmed & Osman (2020), Farid (2022), and Raihan (2025), which emphasizes that the prospects for differentiation can be realized if structural barriers to teachers can be minimized through training, policy support, and the provision of resources. Internationally, Tomlinson (2017) and Ahmed & Osman (2020) emphasize the importance of local context in understanding differentiation practices, as each region presents unique challenges. Therefore, the results of this study indicate that Bima Regency offers significant opportunities to optimize differentiated learning, provided that the fundamental challenges faced by teachers can be addressed through collaboration between schools, the government, and other educational stakeholders. This can be generally illustrated in Figure 1 below.

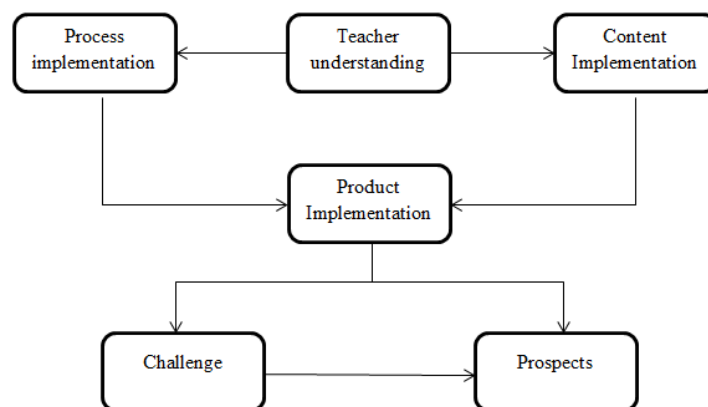


Figure 3. Flowchart of Differentiated Learning Implementation

Figure 3 shows a flowchart of the relationship between teacher understanding, differentiated implementation practices (content, process, and product), challenges

faced, and potential prospects for achieving Curriculum Merdeka-based mathematics learning in junior high schools in Bima Regency. This flowchart emphasizes that teacher understanding is the starting point that determines the direction of implementation, which in turn influences how content and learning processes are tailored to student needs, up to the product evaluation stage. Although implementation still faces various structural and technical obstacles, such as limited time and resources, this diagram demonstrates positive opportunities in the form of increased student participation, reduced achievement gaps, and increased learning motivation. Thus, this flowchart illustrates that.

CONCLUSION

This study confirms that the implementation of differentiated learning within the context of the Independent Curriculum in mathematics at junior high schools in Bima Regency still faces complex dynamics. Teachers demonstrate varying understanding of the concept of differentiation, with most focusing more on content differentiation by providing a variety of questions tailored to student abilities. While the application of process differentiation remains limited to group discussion strategies, product differentiation is almost non-existent because learning evaluation is still dominated by conventional assessments based on written tests. These findings indicate that differentiation in practice has not fully aligned with the ideal principles outlined by the theory and policies of the Independent Curriculum. Challenges faced by teachers include limited learning time, minimal supporting facilities, high administrative burdens, and a lack of training specifically designed to develop teacher capacity in implementing differentiated strategies. These obstacles are consistent with previous research findings, which emphasize that the success of differentiation is strongly influenced by systemic support, including school policies, resource provision, and access to ongoing professional development.

Nevertheless, the prospects for implementing differentiated learning continue to show positive potential. The implementation of simple differentiation has been shown to increase student active participation, reduce academic achievement gaps,

and foster learning motivation. This confirms that even though the implementation is not yet optimal, differentiation has high relevance in creating inclusive, adaptive, and equitable learning, especially in the context of mathematics learning in areas with diverse socio-cultural characteristics, such as Bima Regency.

DAFTAR PUSTAKA

- Ahmed, A. M., & Osman, M. E. (2020). The effectiveness of using wiziq interaction platform on students' achievement, motivation, and attitudes. *Turkish Online Journal of Distance*
<https://dergipark.org.tr/en/pub/tojde/issue/52523/690112>
- Ananda, P., Purrohman, P. S., & Ruslan, A. (2025). *Revolusi pendidikan Indonesia Mencetak Generasi Cerdas di Era Digital*. Uwais Inspirasi Indonesia.
- Aprilia, P. (2024). Cara Penanganan Siswa Berkemampuan di Atas Rata-Rata Sedang dan Rendah. *Journal of Knowledge and Collaboration*, 1(7), 311–323.
- Atmojo, I. R. W., Adi, F. P., Ardiansyah, R., & Saputri, D. Y. (2024). *Pembelajaran berdiferensiasi (dalam implementasi Kurikulum Merdeka)*. CV Pajang Putra Wijaya.
- Azmy, B., & Fanny, A. M. (2023). Literature review: pembelajaran berdiferensiasi dalam kurikulum merdeka belajar di sekolah dasar. *Inventa: Jurnal Pendidikan Guru Sekolah Dasar*, 7(2), 217–223.
- Bi, M., Struyven, K., & Zhu, C. (2023). Variables that influence teachers' practice of differentiated instruction in Chinese classrooms: A study from teachers' perspectives. *Frontiers in Psychology*, 14, 1124259.
- Chen, C., Qin, Y., Chen, H., Cheng, J., He, B., Wan, Y., Zhu, D., Gao, F., & Zhou, X. (2022). Machine learning to differentiate small round cell malignant tumors and non-small round cell malignant tumors of the nasal and paranasal sinuses using apparent diffusion coefficient values. *European Radiology*, 32(6), 3819–3829.
- Creswell, J. W. (2012). Collecting qualitative data. In *Educational Research: Planning, Conducting, and Evaluating Quantitative and Qualitative Research*. Fourth ed. Boston: Pearson.
- Deng, M. T., Xin, W., & Yang, M. (2025). Assessment purposes and theoretical foundations in university mathematics assessment practices: a comprehensive scoping review. *Assessment & Evaluation in Higher Education*, 1–21.
- Farid, I. (2022). Strategi Pembelajaran Diferensiasi Dalam Memenuhi Kebutuhan Belajar Peserta Didik di Sekolah Dasar. *Jurnal Pendidikan Dan Konseling*, 4, 1707–1715.
- Guo, S., Liu, C., & Liu, E. (2022). An exploration of multilevel effects of student- and school-factors on elementary students' attitudes towards science.

International Journal of Science Education, 44(15), 2330–2352.

- Hasanah, E., Al Ghazy, M. I., Suyatno, S., Maryani, I., & Mohd Yusoff, M. Z. (2023). Unlocking classroom potential: exploring the mediating role of teacher mindset on embracing differentiated instruction. *International Journal of Learning, Teaching and Educational Research*, 22(10), 433–452.
- Hasanah, I., Salsabillah, L., Alaudin, Z., & Kusumaningrum, H. (2024). Analisis dampak kebijakan pendidikan terbaru pada manajemen sekolah. *Sinar Dunia: Jurnal Riset Sosial Humaniora Dan Ilmu Pendidikan*, 3(4), 77–90.
- Huberman, M., & Miles, M. B. (2002). *The qualitative researcher's companion*. Sage.
- Jatmiko, H. T. P., & Putra, R. S. (2022). Refleksi diri guru bahasa indonesia dalam pembelajaran berdiferensiasi di sekolah penggerak. *Lingua Franca: Jurnal Bahasa, Sastra, Dan Pengajarannya*, 6(2), 224–232.
- Kurniawan, R. G. (2025). *Pembelajaran diferensiasi berbasis deep learning: Strategi mindful, meaningful, dan joyful learning*. Penerbit Lutfi Gilang.
- Marantika, J. E. R., Tomasouw, J., & Wenno, E. C. (2023). Implementasi pembelajaran berdiferensiasi di kelas. *German Für Gesellschaft (J-Gefüge)*, 2(1), 1–8.
- Mbato, C. L. (2024). *Paradigma Pendidikan Memerdekakan: Mentransformasi Arena Mengajar Menjadi Ruang Belajar*. Sanata Dharma University Press.
- Melati, N. V., & Napfiah, S. (2025). Meningkatkan Kemampuan Belajar Matematika melalui Pembelajaran Berdiferensiasi. *Adaptif: Jurnal Pendidikan Profesi Guru*, 1(01), 18–25.
- Putra, I. M. Y. T. (2021). Implementasi pembelajaran flipped classroom berbasis strategi diferensiasi untuk meningkatkan keterampilan berpikir kritis peserta didik. *Indonesian Journal of Educational Development (IJED)*, 2(3), 461–471.
- Raihan, S. (2025). Inovasi Kurikulum Sekolah Dasar di Era Kurikulum Merdeka: Tinjauan Literatur Terhadap Tantangan dan Peluang Transformasi Pendidikan. *JURNAL PEMIKIRAN DAN PENGEMBANGAN PEMBELAJARAN*, 7(1), 13–23.
- Ramadani, S. D. (2025). *Evaluasi implementasi Kurikulum Merdeka pada pembelajaran IPS di SMPN 01 Karangploso*. Universitas Islam Negeri Maulana Malik Ibrahim.
- RASTINI, D. A. Y. U. (2025). *Pelaksanaan Pembelajaran Berdiferensiasi Pada Mata Pelajaran Pendidikan Agama Islam Dan Budi Pekerti Di Sekolah Inklusi SMAN 1 Sungayang*.
- Rini, W., & Mandailina, V. (2024). Pembelajaran Kolaboratif Berbantuan Teknologi dalam Matematika: Tantangan dan Peluang. *Mathematical Proceedings of The Widya Mandira Catholic University*, 2(1), 55–70.
- Riyannie, D. (2024). Pembelajaran Berdiferensiasi Matematika untuk Meningkatkan Hasil Belajar Peserta Didik Kelas VII Materi Garis dan Sudut

-
- (SMP Negeri Satu Atap-1 Kahayan Kuala Kabupaten Pulang Pisau Provinsi Kalimantan Tengah). *Jurnal Pendidikan Indonesia*, 5(10).
- Rosadi, K. I., & Mun'amah, A. N. (2023). An Analysis of the Orientation of Achievement of National Education Goals through the Merdeka Belajar Policy in Indonesia. *Zabags International Journal Of Education*, 1(2), 43–51.
- Santangelo, T., & Tomlinson, C. A. (2012). Teacher educators' perceptions and use of differentiated instruction practices: An exploratory investigation. *Action in Teacher Education*, 34(4), 309–327.
- Su, F., Zou, D., Wang, L., & Kohnke, L. (2024). Student engagement and teaching presence in blended learning and emergency remote teaching. *Journal of Computers in Education*, 11(2), 445–470.
- Suryani, E. A., Siswanto, D. H., & Pisriwati, S. A. (2024). Strengthening teacher competence through differentiated instruction training as an implementation of the Merdeka curriculum. *JOELI: Journal of Educational and Learning Innovation*, 1(2), 137–146.
- Syarifudin, Nurrahmah, & Widiyanti, R. (2024). *Characterization of Foundational Literacy Instruction for Early Grade Students Based On Their*. 10(1), 43–49.
- Tomlinson, C. A. (2001). *How to differentiate instruction in mixed-ability classrooms*. Ascd.
- Tomlinson, C. A. (2014). *The differentiated classroom: Responding to the needs of all learners*. Ascd.
- Tomlinson, C. A. (2017). Differentiated instruction. In *Fundamentals of Gifted Education* (pp. 279–292). Routledge.
- Tomlinson, C. A. (2020). Differentiation of Instruction in the Elementary Grades. *Journal GEEJ*, 7(2).
- Tomo, T., Siregar, N., & Meldi, N. F. (2025). Pembelajaran Berdiferensiasi pada Pembelajaran Matematika: Sebuah Kajian Literatur. *Jurnal Alwatzikhoebillah: Kajian Islam, Pendidikan, Ekonomi, Humaniora*, 11(1), 97–104.
- Ulumiyah, K. (2025). *Efektivitas Pembelajaran Berdiferensiasi Konten Terhadap Pemahaman Konsep Matematika dan Motivasi Belajar Siswa*. Universitas Muhammadiyah Malang.
- Umam, K., Awang, M. I., Bunyamin, Azhar, E., & Nuriadin, I. (2025). The impact of blended learning on knowledge, skills, and satisfaction in mathematics: a study in Indonesian universities. *Cogent Education*, 12(1), 2541081.
- Vian, I. S., Fitri, S. E., & Majid, N. (2025). Implementasi Kurikulum Merdeka Dilihat Dari Perspektif Tata Kelola Pendidikan Study Kasus SMAN 3 Jakarta. *Jurnal Educatio FKIP UNMA*, 11(3).
- Yogi, Y. I. (2025). Analisis Kesulitan Guru dalam Menerapkan Pembelajaran Berdiferensiasi di Kelas Inklusif. *Jurnal Ilmiah Pendidikan Guru Madrasah*

Ibtidaiyah, 2(2), 97–108.

Yuniria, A., & Atikah, C. (2024). Pembelajaran Berdiferensiasi dalam Kurikulum Merdeka pada Pendidikan Anak Usia Dini. *Cendikia: Jurnal Pendidikan Dan Pengajaran*, 2(1), 56–66.