



The Effectiveness of Project-Based Differentiated Learning in Improving Descriptive Writing Skills : A Study of Elementary School Students

Nur Istiqomah^{1*}, Tri Wintolo Apoko²

¹*Primary School Teacher Program, ²English Language Education Department,
Faculty of Teacher Training and Education,
Universitas Muhammadiyah Prof. Dr. Hamka, Indonesia.

*Corresponding Author. Email: istiqomahnur655@gmail.com

Abstract: This study aims to analyze the effectiveness of implementing project-based differentiated learning in improving elementary school students' descriptive text writing skills. This study used a mixed method with an explanatory sequential design. The participants of the study were 48 fifth grade students at a public elementary school in South Jakarta, who were divided into two groups, namely the experimental and control classes. The instruments used included writing tests, questionnaires, and semi-structured interviews. Quantitative data were analyzed using descriptive and inferential statistics, while qualitative data used thematic analysis. The results showed that there was a significant increase in students' descriptive text writing skills in the experimental group. In addition, qualitative results showed that students had positive perceptions of this learning method. This study provides recommendations for elementary school teachers to consider project-based differentiated learning for more effective teaching and contribute to increasing students' motivation and confidence in learning.

Article History

Received: 17-04-2025

Revised: 21-05-2025

Accepted: 16-06-2025

Published: 25-07-2025

Key Words:

Differentiated Learning;
Project-Based Learning;
Writing Skill; Primary
School Students.

How to Cite: Istiqomah, N., & Apoko, T. (2025). The Effectiveness of Project-Based Differentiated Learning in Improving Descriptive Writing Skills : A Study of Elementary School Students. *Jurnal Paedagogy*, 12(3), 703-712. doi:<https://doi.org/10.33394/jp.v12i3.15709>



<https://doi.org/10.33394/jp.v12i3.15709>

This is an open-access article under the [CC-BY-SA License](#).



Introduction

Project based learning, cooperative learning, contextual teaching, inquiry learning, and concept learning are some of the learning models that are often used. These models certainly have their own advantages and disadvantages as well as the suitability of their uses in teaching materials. Based on the independent learning curriculum (Kurikulum Merdeka), the project-based learning model (PjBL) is one of the learning models that teachers need to apply in the classroom. This model is considered more adaptive and encourages students to be more creatively involved when working on group projects. Purba et al., (2021) explains that PjBL helps students get better at solving difficulties and achieving academic goals. PjBL is a learning paradigm that actively involves students in the learning process by assigning them tasks to work on and complete certain learning projects. Teachers use this learning model as it is considered to offer certain benefits compared to alternative learning models. The PjBL model has the advantage because it is very good at encouraging basic skills such as creativity, problem-solving, critical thinking, and decision-making. In addition, this model is considered effective in helping students develop a greater sense of self-esteem and competence in managing their own education (Mondolalo & Mulyadi, 2023).

To meet the goals of 21st century education that places a strong emphasis on developing students' creative abilities so that they can work creatively (*creative work*), the independent learning policy is issued by the Indonesian government through the Ministry of



Education and Culture (Kemdikbud) to realize superior and Pancasila-minded Indonesian human resources (HR). This policy seeks to revolutionize education, namely student-centered learning initiated by Ki Hajar Dewantara at the Taman Siswa School in 1922. The idea is independent learning or independent education and this is relevant to Government Regulation Number 57 concerning National Education Standards in 2021 which states that a diverse curriculum must be developed depending on the peculiarities of the region, educational unit, and students (President of the Republic of Indonesia, 2021).

Differentiated learning is one of the elements of the curriculum for independent learning. This learning pattern is an example of student-centered learning that is created, implemented, and evaluated to meet the unique needs of each student by considering learning profiles, learning readiness, and learning interests (Tomlinson, 2017). Meeting students' learning needs and how teachers address them should be at the core of differentiated learning. Learning motivation, hobbies, social background, learning knowledge, and other aspects are just a few of the many traits and diversity of students in the Indonesian formal education system. Teachers must be able to support learning activities so that students from various backgrounds can perform at their best. In this case, educators must be able to guarantee that all students have an equal opportunity to learn in a way that works best for them (Bendriyanti et al., 2022). Students will be able to learn about holistic or holistic values in addition to realizing their full potential by embarking on the use of individualized training. Teachers need to know how to design and implement an integrated learning process in order to manage it properly.

Sakti & Ainiyah (2024) said differentiated learning is one of the innovative strategies in the world of modern education to answer the challenge of diversity of student needs. In the context of basic education, the need to adjust learning methods based on students' interests, abilities, and learning styles is becoming increasingly urgent. The Merdeka curriculum offers a framework that encourages flexibility and adaptation, allowing teachers to create a more personalized and meaningful learning experience. According to Naibaho (2023), differentiated learning strategies not only refer to customizing learning content, processes, and products, but also include the use of project-based approaches to provide a relevant and engaging learning context. PjBL as one of the learning models, is designed to encourage students to think critically, creatively, and collaboratively through meaningful real activities.

The importance of writing as one of the basic skills in language learning is the driving force di balik penelitian ini. Students often have difficulty writing, especially when it comes to creating descriptive writing. It is then expected that the use of project-based differentiation learning will be a creative way to improve writing skills. This study aims to evaluate the effectiveness of project-based differentiated learning in improving the descriptive text writing skills of elementary school students, as well as exploring students' perceptions of these innovative learning methods. Specifically, this study will examine students' perceptions of the application of differentiated PjBL in descriptive writing learning, and whether there are significant differences in students' writing skills before and after the application of this method. Thus, this research is expected to provide a comprehensive picture of the contribution of this learning innovation in the context of heterogeneous classrooms.

Research Method

This study used a mixed method (*mixed-methods*) with design *Explanatory Sequential*. This method was chosen because it combines quantitative and qualitative data to provide a deeper knowledge of how well project-based differentiated learning serves to



improve the descriptive text writing skills of elementary school students. According to Creswell (John W. Creswell, 2007), the mixed method focuses on collecting, analyzing, and mixing quantitative and qualitative data in one study in a row, which in this study begins with the quantitative stage, then continues with the qualitative stage to strengthen the results obtained.

The participants in this study were grade V students at a public elementary school, South Jakarta, Indonesia, which totaled 48 people. These students were divided into two groups with a balanced number, namely 24 students in the experimental group and 24 students in the control group. The experimental group received a project-based differentiated learning treatment in writing learning, while the control group continued to follow conventional learning methods as usual in the classroom. The participants' backgrounds were quite diverse, including differences in the initial ability to write the descriptive text that was the focus of the study. This is important to ensure that the learning model being tested can be applied to different levels of student ability. In addition, in qualitative data collection, participants were purposively selected based on their learning styles (visual, audiovisual, and kinesthetic) to represent the diversity of student characteristics.

A writing test and questionnaires are the two main tools used to collect quantitative data. The purpose of the writing test is to assess the proficiency of grade V students in writing descriptive texts in Indonesian subjects. This test was carried out before (pretest) and after (posttest) the implementation of project-based differentiated learning, by paying attention to relevant themes and adjusted to students' learning styles.

In addition to the writing test, questionnaire instruments were used to explore students' perceptions related to the learning that has been implemented. This questionnaire consists of 14 questions that cover three main aspects: (1) perception of learning materials and methods, (2) learning processes, and (3) learning outcomes. This questionnaire is adapted from previous research (Shafina & Mukhlis, 2025). The validity test was carried out Pearson Product Moment correlation. From the results of the validity test, it was obtained that all items showed r-value was greater than the r-table (0.367), and it was declared valid. Meanwhile, the reliability test was carried out using Alpha Cronbach and resulted in a value of 0.87 which is included in the category very reliable (≥ 0.80). Therefore, this questionnaire has a very high internal consistency. It means that the questionnaire used in this study qualifies as a valid and reliable instrument to measure students' perception of project-based differentiated learning. To strengthen the quantitative results, this study also collected qualitative data through semi-structured interviews. Interviews are conducted in a structured manner with students representing different learning style groups, such as visual, audiovisual, and kinesthetic.

The analytical model used follows Miles and Huberman (2014) which consists of three main steps, namely: (1) data reduction which involves selecting, simplifying, and encoding raw data into more focused and meaningful information, (2) data presentation in the form of a narrative descriptive to describe the results clearly and easily understandable, and (3) conclusion drawing and verification to ensure that the results truly reflect the conditions of the field.

Data integration was carried out by linking test and survey results (quantitative) with interviews (qualitative), to create a complete narrative about learning effectiveness. The validity of the data was checked through triangulation of methods, member checking, and audit trials to ensure that the results of the analysis were accurate and free of bias.



Results and Discussion

1) Students' perception of project-based differentiated learning in learning to write descriptive texts

a) Students' Perception of Learning Materials and Methods

Based on the data in Table 1, it is known that students' perceptions of project-based differentiated learning materials and methods show a very positive trend. In the first statement, *"I feel that project-based learning helps me understand the written material"* as many as 82% of students stated Strongly Agree (SS), and 18% stated Agree (S), with an average score of 4.917 and a standard deviation of 0.28. This shows that project-based learning has proven to be very effective in helping students understand the writing material more deeply. The high percentage of participants who expressed Strongly Agree also showed positive acceptance of this method. The second statement, *"The project method made me more interested in learning to write"*, received responses of Strongly Agree from 83% of students, and Agree from 17%, with an average score of 4.833 and a standard deviation of 0.38. These findings reinforce that the project approach encourages an increase in students' interest in learning in writing activities. Methods that actively involve students in the learning process are able to generate high interest and motivation to learn.

Furthermore, the third statement, *"I feel free to choose and express my ideas in a writing project"*, received a response of Strongly Agree from 86% of students and Agree from 14%, with an average score of 4.875 and a standard deviation of 0.34. This shows that students feel given freedom and space to create independently. This is one of the important indicators in different learning, which is to provide autonomy and flexibility to students in developing their potential. The fourth statement, *"This project was awarded according to my interests and abilities"*, received responses of Strongly Agree from 75% of learners and Agree responses from 25%, with an average of 4.750 and a standard deviation of 0.44. These results show that teachers have developed projects that are relevant to the individual interests and abilities of learners. Although the standard deviation is slightly higher, it still shows that the majority of students feel that the project given is in accordance with their characteristics.

Table 1. Students' Perception of Learning Materials and Methods

No.	Statements	SD	D	N	SA	SA	Mean	STDEV
1.	I feel that project-based learning helps me understand the writing material.	0%	0%	0%	8%	92%	4.917	0.28
2.	The project method made me more interested in learning to write.	0%	0%	0%	17%	83%	4.833	0.38
3.	I feel free to choose and express my ideas in writing projects.	0%	0%	0%	13%	88%	4.875	0.34
4.	The projects given are according to my interests and abilities.	0%	0%	0%	25%	75%	4.750	0.44

The results of the qualitative analysis strengthened quantitative data regarding students' perceptions of project-based differentiated learning materials and methods. In the table, it can be seen that the majority of students gave a very positive response, with average scores ranging from 4.75 to 4.92, which indicates that they feel that this method helps them understand the material and makes the learning process more interesting.



From the interviews, most of the students shared the same experience, with Student 1 stating, *"I like to study with projects like this because it's more exciting and doesn't make you sleepy"*, in line with the data in the table showing that 92% of students strongly agree that project-based learning helps them understand the material. This statement was further strengthened by 3 students who stated, *"I really like learning in the project way because it is more fun and less boring"*, confirming that this method creates a more lively and non-monotonous learning atmosphere.

In terms of understanding descriptive text writing, students also convey a positive impact. Student 2 said, *"Yes, studying with this project has made me understand how to write descriptive texts better. The descriptive text should be clear, detailed, and able to make others imagine what I'm writing."* This is in line with the high score (average 4.83) in the table which shows that the project method is considered more concrete in helping students learn to write. Student 4 also added, *"I can immediately try to write a text description of the object or place I see. I became more understanding"*, showing that hands-on practice greatly influenced their understanding.

b) Students' perception of the learning process

Based on Table 2, students' perceptions of the project-based learning process showed a very positive and consistent response. All statements in the table have a high mean value, above 4.8, with a low standard deviation, indicating a strong and uniform perception among students. In the fifth statement, *"I feel good about working together in a group when completing the project"*, as many as 92% of students stated 'Strongly Agree' and 8% 'Agree', with a mean value of 4.917 and a standard deviation of 0.28. These results show that the process of group work in project learning creates a fun collaborative atmosphere and encourages active student engagement.

The sixth statement, *"Teachers provide adequate guidance during the project-based learning process"*, obtained a mean of 4.875 and a standard deviation of 0.34. As many as 88% of students stated 'Strongly Agree' and 13% 'Agreed'. These findings show that the role of teachers as facilitators during project learning is felt to be very helpful by students. Furthermore, the seventh statement, *"I feel comfortable with the way the teacher delivered the writing material through the project method"*, received a response of 'Strongly Agree' from 96% of students, and 'Agree' from 4% of students, with a mean of 4.958 and a standard deviation of only 0.20. This shows the students' high comfort with the approach teachers use in project-based writing learning.

The eighth statement, *"Project-based learning makes learning to write more fun"*, also showed excellent results, with a mean of 4.958 and a standard deviation of 0.20. 96% of students said 'Strongly Agreed', and 4% said 'Agreed', which indicates that students really enjoyed the process of learning to write through the project.

Table 2. Students' perception of the learning process

No.	Statements	SD	D	N	SA	SA	Mean	STDEV
5.	I enjoyed working together in a group when I completed the project.	0%	0%	0%	8%	92%	4.917	0.28
6.	The teacher provides sufficient guidance during the project-based learning process.	0%	0%	0%	13%	88%	4.875	0.34
7.	I feel comfortable with the way teachers teach writing material	0%	0%	0%	4%	96%	4.958	0.20



through the project method.

8.	Project-based learning makes learning more fun.	0%	0%	0%	4%	96%	4.958	0.20
----	---	----	----	----	----	-----	-------	------

Qualitative data analysis from the interview results showed that students' responses to the results of the differentiated project-based learning influence with students reinforced the quantitative data in Table 2. Student 1 said, *"Group work is fun! I can exchange ideas with friends and help each other,"* which clarifies the data from the table that group work is considered fun and rewarding. Student 5 added, *"Working together with friends in the group is fun and rewarding,"* which confirms that collaboration is not only fun, but also reinforces the learning process.

In terms of teacher guidance, Student 2 stated, *"I feel that teachers have been very helpful in this project. The teacher provides examples of good writing,"* which shows that the teacher provides effective direction during the process. This is in line with the opinion of Student 4, *"The teacher provides good guidance. If someone doesn't understand, the teacher explains again until we understand,"* which emphasizes the quality of teacher guidance which is considered very good by students. The results of the interviews also confirmed the effectiveness of the project in improving students' understanding of the material

From the teacher's point of view, Teacher 1 stated, *"This method helps students better understand how to structure the description text well. They learn to write more structured, use the right words, and describe objects more clearly and attractively,"* This statement shows that teachers also see a significant positive impact of the project method on students' writing skills.

c) Students' perceptions of learning outcomes

The results of the quantitative analysis showed that learners responded very positively to project-based differentiated learning. This is reflected in the high mean value of each statement, with the highest mean of 4.958 and the lowest of 4.792. In addition, the standard deviation (STDEV) on each question tends to be low, ranging from 0.20 to 0.49, which indicates that learners' perceptions are relatively uniform and consistent.

Table 3. Students' perception of learning outcomes

No.	Statements	SD	D	N	SA	SA	Mean	STDEV
9.	Project-based learning improved my ability to write descriptions	0%	0%	0%	8%	92%	4.917	0.28
10.	I feel more confident in writing descriptive texts after taking this learning	0%	0%	0%	4%	96%	4.958	0.20
11.	Writing projects make me more creative in conveying ideas.	0%	0%	0%	17%	83%	4.833	0.38
12.	I can use the results of this learning to write better in the future.	0%	0%	0%	4%	96%	4.958	0.20
13.	I feel that these projects provide a meaningful learning experience.	0%	0%	0%	21%	79%	4.792	0.41
14.	This method is more effective than other learning methods in	0%	0%	0%	21%	79%	4.792	0.41



improving writing

The results of the qualitative analysis in this study were obtained through in-depth interviews with students and teachers involved in the implementation of project-based differentiation learning. Interviews were conducted to explore students' and teachers' perceptions and subjective experiences of the methods used. These findings are compiled to support and explain the quantitative results in Table 3.

The results of descriptive text writing comprehension showed that 92% of students strongly agreed that project learning helped them understand how to write descriptive texts (Average = 4,917). This is reinforced by Student 2's statement, *"Learning with this project has made me better understand how to write descriptive texts. The descriptive text should be clear, detailed, and able to make others imagine what I'm writing."*

The result of the confidence increase was that 96% of students strongly agreed that they were more confident in writing descriptive texts after participating in this learning (Average = 4,958). Student 6 said, *"I can express my ideas and feelings better in writing."* This shows that project learning not only impacts the cognitive aspect, but also on the affective aspects of students such as courage and confidence in writing. Support from teachers also corroborates these findings. Teacher 1 said, *"Students are more confident in pouring their ideas into writing. They learn to structure descriptive texts more clearly and in a more structured way."*

Regarding the effectiveness of the method compared to the conventional method, it was stated that the project was more effective than the conventional method (Average = 4,792), there were 21% who answered neutrally, indicating a variation of views. This could be because some students still feel more comfortable with a more structured and familiar method. However, Teacher 2 emphasizes, *"This method is more effective because it makes students actively learn, not just listen. They can experience the actual writing process on their own."*

2) Differences in students' writing skills before and after the implementation of project-based differentiated learning

Table 4 presents descriptive statistical data in the form of mean values and standard deviations from the results of the post-test of the experimental class and the control class. From the table, it is known that the experimental class that received project-based differentiated learning treatment had an average score of 84.38 with a standard deviation of 3.398, while the control class that received conventional learning only obtained an average score of 67.08 with a standard deviation of 6.903. This difference showed that the experimental class experienced a significant increase in learning outcomes on average and more evenly (indicated by a smaller standard deviation), compared to the control class that had a lower average and greater variation in scores. These results indicate that the project-based differentiated learning approach is able to have a positive influence on students' ability to write descriptive texts.

Table 4. Mean and Standard Deviation in Two Class Groups

	Class	N	Mean	Std. Deviation	Std. Error Mean
Value	Post-test class Control	24	67.08	6.903	1.409
	post-test class Experiment	24	84.38	3.398	.694



Table 5 shows the results of the *Independent Samples t-Test* used to determine whether there is a significant difference between the results of the experimental and control class post-tests. Based on the results of the Levene's Test, a significance value (Sig.) of $0.002 < 0.05$ was obtained, which means that the data variance is not homogeneous. Therefore, the analysis continues with the reading of the line "Equal variances not assumed." The value of $t = -17.292$ with a significance (2-tailed) of $0.000 < 0.05$. These findings show that there is a significant difference between the writing learning outcomes of students who follow project-based differentiated learning (experimental classes) and students who follow conventional learning (control classes). This mean difference of 17,292 points reinforces the evidence that the learning model applied to the experimental classroom is more effective in improving students' writing skills compared to the usual learning method.

Table 5. Differences in Reading Learning Outcomes Between Experimental and Control Classes

		Independent samples test								
		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	Df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
value	Equal variances assumed	10.722	.002	-11.010	46	.000	-17.292	1.570	-20.453	-14.130
	Equal variances not assumed			-11.010	33.531	.000	-17.292	1.570	-20.485	-14.098

This study aims to evaluate the effectiveness of project-based differentiation learning in improving the descriptive text writing ability of elementary school students Nuraeni at al., (2022). Research findings, both quantitative and qualitative, show that this approach has a significant influence on improving students' writing skills, learning motivation, and confidence. From the current results, it was found that students' perception of this learning was very positive. This shows that this approach is not only effective in the cognitive aspect, but also has an affective impact, building students' confidence in writing (Stuart, 2021). Additionally, project-based differentiated learning encourages creativity and collaboration. Students in the experimental group were given the freedom to choose the topic and style of presentation of the project, in accordance with the principle of product differentiation described by Ilyas & Lismayani, (2023). It facilitates visual, audio, and kinesthetic learning styles,

Implementation of Differentiation in PjBL in this study is implemented through adjustments to content, processes, and products. Students are given the freedom to choose their project topic based on personal interests (e.g., describing a favorite place or object), and they can present their work using a variety of formats such as images, oral storytelling, or written narrative. For example, visual learners create illustrations in advance to help structure their descriptive text, while kinesthetic learners engage in field observations before writing. This reinforces an accommodative approach to students' interests, readiness, and learning styles which encourage them to improve learning outcomes in real terms (Naibaho, 2023). The results of this study are also in line with research conducted by Marlani & Prawiyogi



(2019) and Mehany (2022) where project-based differentiation learning helps students build deep understanding through real project exploration, and this is evident in the improvement of students' writing grades and writing fluency in the experimental group.

Conclusion

Based on the results of the research obtained, it can be concluded that project-based differentiated learning is an effective and relevant approach to be applied in learning to write descriptive texts in elementary schools. This approach has not only been statistically proven to improve students' writing skills score, but also improve their understanding of the material, foster confidence, encourage creativity, and create a more enjoyable and contextual learning environment. In addition, this approach accommodates the diversity of students' learning styles and interests, and enhances social interaction through intensive group work and teacher mentorship. Although some students are still familiar with conventional methods, most positively welcome project learning that provides them with a meaningful and applicative learning experience.

Recommendation

Based on the results of this study, teachers are advised to start designing learning that integrates project-based differentiation approaches on an ongoing basis. Teachers need to regularly map students' interests, readiness, and learning profiles so that differentiation strategies are more targeted. In addition, the development of a teacher learning community can be a means of sharing good practices in the implementation of learning that is in favor of students. For further research, it is recommended to expand the scope of research by involving more schools from different backgrounds and regions to acquire a stronger generation. Advanced research can also delve deeper into implementation aspects, such as the effectiveness of differentiation strategies at various grade levels or other subjects. In addition, a longitudinal approach can be used to look at the long-term impact of project-based differentiation learning on students' writing development.

References

- Bendriyanti, R. P., Dewi, C., & Nurhasanah, I. (2022). Manajemen Pembelajaran Berdiferensiasi Dalam Meningkatkan Kualitas Belajar Siswa Kelas Ix Smpit Khairunnas. *Jurnal Pendidikan (Teori Dan Praktik)*, 6(2), 70–74. <https://doi.org/10.26740/jp.v6n2.p70-74>
- Ilyas, S. N., & Lismayani, A. (2023). Implementation of Differentiated Learning at TK Islam Plus E-School. *EduLine: Journal of Education and Learning Innovation*, 3(4), 586–591. <https://doi.org/10.35877/454ri.eduline2174>
- John W. Creswell, V. L. P. C. (2007). *Designing and Conducting Mixed Methods Research*.
- Marlani, L., & Prawiyogi, A. G. (2019). Penerapan Model Pembelajaran Project Based Learning Untuk Meningkatkan Keterampilan Menulis Puisi Di Sekolah Dasar. *Al-Aulad: Journal of Islamic Primary Education*, 2(1), 8–12. <https://doi.org/10.15575/al-aulad.v2i1.4427>
- Mehany, A. A. A. (2022). Differentiated Instruction to Develop Al-Azhar Students' Writing Fluency. *Online Submission*, 2(1), 26–38. <https://files.eric.ed.gov/fulltext/ED621104.pdf>
- Miles, M. B., & Huberman, A. M. (2014). Qualitative Data Analysis. In *CEUR Workshop Proceedings* (Vol. 1304, pp. 89–92).



- Mondolalo, D., & Mulyadi. (2023). Keterampilan Menulis Struktur Deskripsi Umum Teks Deskripsi dalam Pembelajaran Menggunakan Teknik Tugas Menyalin Pendekatan Individual. *Jurnal Pembelajaran Bahasa Dan Sastra*, 2(5), 693–700. <https://doi.org/10.55909/jpbs.v2i5.530>
- Naibaho, D. P. (2023). Strategi Pembelajaran Berdiferensiasi Mampu Meningkatkan Pemahaman Belajar Peserta Didik. *Journal of Creative Student Research*, 1(2), 81–91.
- Nuraeni, W., U. Sa'adah, A. P. Utami, & R. Setiawaty. (2022). Literature Review: Peningkatan Kemampuan Menulis Siswa Sekolah Dasar dengan Media Gambar. *Seminar Nasional LPPM UMMAT (Universitas Muhammadiyah Mataram)*, 1, 222–232.
- Presiden Republik Indonesia. (2021). *Standar Nasional Pendidikan*. 102501.
- Purba, M., Purnamasari, N., Soetantyo, S., Suwarma, I. R., & Susanti, E. I. (2021). Prinsip Pengembangan Pembelajaran Berdiferensiasi (Differentiated Instruction). In *Pusat Kurikulum dan Pembelajaran Badan Standar, Kurikulum, dan Asesmen Pendidikan Kementerian Pendidikan, Kebudayaan, Riset, dan Teknologi*.
- Sakti, N. C., & Ainiyah, M. U. (2024). Pembelajaran Berdiferensiasi Berbasis Proyek dalam Meningkatkan Hasil Belajar Peserta Didik di Era Pembelajaran Abad 21. *Jurnal Ilmiah Profesi Pendidikan*, 9(2), 706–711. <https://doi.org/10.29303/jipp.v9i2.1970>
- Shafina, V., & Mukhlis, M. (2025). *Persepsi Siswa terhadap Pembelajaran Bahasa Indonesia Berdiferensiasi pada Kurikulum Merdeka di SMAN 11 Pekanbaru*. 10(1), 147–157.
- Suwartiningsih, S. (2021). Penerapan Pembelajaran Berdiferensiasi untuk Meningkatkan Hasil Belajar Siswa pada Mata Pelajaran IPA Pokok Bahasan Tanah dan Keberlangsungan Kehidupan di Kelas IXb Semester Genap SMPN 4 Monta Tahun Pelajaran 2020/2021. *Jurnal Pendidikan Dan Pembelajaran Indonesia (JPPI)*, 1(2), 80–94. <https://doi.org/10.53299/jppi.v1i2.39>
- Tomlinson, C. A. (2017). *How to differentiate instruction in academically diverse classrooms*. Ascd.