

STUDENTS' LEARNING STYLE ANALYSIS IN ENHANCING DIFFERENTIATED INSTRUCTION AT SD NEGERI 1 ROWOHARJO

Dewi Sekar Sari,¹ Dhea Ayu Laura,² Anisa Nasywa Zhahiroh,³ Abu Rijal Maulana Bekti⁴, Ferril Irham Muzaki⁵

Elementary School Teacher Education Study Program, Faculty of Education, State University of Malang, Indonesia

¹dewi.sekar.2401516@students.um.ac.id,²dhea.ayu.2401516@students.um.ac.id,

³anisa.nasywa.2401516@students.um.ac.id,⁴abu.rijal.2401516@students.um.ac.i

d,⁵ferril.irham.fip@um.ac.id

ABSTRACT

This study aims to analyze the variations in students' learning styles and their relationship with the implementation of differentiated instruction at SD Negeri 1 Rowoharjo. A systematic literature review (SLR) following the PRISMA protocol (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) was conducted on 11 selected articles retrieved from Google Scholar, SINTA, and nationally accredited journal portals, and was integrated with empirical field data obtained through in-depth interviews with three teachers. The findings consistently reveal that elementary school students possess heterogeneous learning styles, with a dominance of the kinesthetic modality followed by visual and auditory preferences. Teachers at SD Negeri 1 Rowoharjo have made efforts to accommodate these differences through the use of visual media, class discussions, and hands-on activities; however, such efforts remain situational and have not been grounded in systematic learning style mapping. Identification of learning styles through the VARK model proves to be a practical and relevant framework for designing adaptive instructional strategies. This study concludes that structured mapping of students' learning styles is an essential prerequisite for effective, innovative, and student-centered differentiated instruction.

Keywords: *Learning style, VARK, differentiated instruction, learning effectiveness, elementary school*

ABSTRAK

Penelitian ini bertujuan menganalisis variasi gaya belajar siswa sekolah dasar dan kaitannya dengan penerapan pembelajaran berdiferensiasi di SD Negeri 1 Rowoharjo. Kajian literatur sistematis menggunakan protokol PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) dilakukan terhadap 11 artikel yang relevan dan terseleksi dari berbagai basis data ilmiah, kemudian diintegrasikan dengan data empiris lapangan melalui wawancara mendalam terhadap tiga guru. Hasil kajian menunjukkan bahwa gaya belajar siswa sekolah dasar bersifat heterogen, dengan dominasi gaya kinestetik diikuti visual dan

auditori. Guru di SD Negeri 1 Rowoharjo telah berupaya mengakomodasi keragaman tersebut melalui penggunaan media visual, diskusi, dan aktivitas praktis, meskipun penerapan pembelajaran berdiferensiasi belum dilakukan secara sistematis. Identifikasi gaya belajar melalui model VARK terbukti menjadi dasar yang kuat untuk merancang strategi pembelajaran adaptif. Simpulan penelitian ini menegaskan perlunya pemetaan gaya belajar secara terstruktur sebagai landasan implementasi pembelajaran berdiferensiasi yang efektif, inovatif, dan berpusat pada siswa.

Kata Kunci: Gaya belajar, VARK, pembelajaran berdiferensiasi, efektivitas pembelajaran, sekolah dasar

A.Introduction

The diversity of student characteristics is an unavoidable reality in every elementary school classroom. One important dimension of this diversity is learning style, which refers to the unique way individuals receive, process, and retain information during the learning process (Nasution, 2022). Previous studies have shown that differences in learning styles influence students' understanding of learning materials and their academic achievement (Djara et al., 2023; Telaumbanua & Harefa, 2024). Therefore, understanding students' learning styles serves as an essential foundation for teachers in designing instructional strategies that align with students' needs.

One of the most widely applied learning style classifications in elementary education is the Visual,

Auditory, and Kinesthetic (VAK) model proposed by DePorter and Hernacki (2004), which was later expanded into the VARK model by incorporating the Read/Write dimension (Subagja & Rubini, 2023). Numerous studies have indicated that students demonstrate different learning style preferences. Rahmah (2022) found that visual, auditory, and kinesthetic learning styles among elementary school students are distributed diversely, with kinesthetic learning being the most dominant tendency. Furthermore, Lestari and Djuhan (2021) explained that students' learning success is strongly influenced by teachers' ability to recognize and adapt instruction according to their learning styles.

In this context, differentiated instruction has emerged as a relevant approach to accommodate the diversity of students' learning styles. Several studies have demonstrated

that identifying learning styles assists teachers in designing differentiated content, processes, and learning products more effectively (Himmah & Nugraheni, 2023; Andriani & Nugraheni, 2024; Wibowo et al., 2023; Mahendra et al., 2024). However, the implementation of differentiated instruction in schools still faces various challenges, including limited teacher preparedness and the absence of systematic mapping of students' learning styles (Wudda & Adri, 2025; Hilman et al., 2023).

Based on these conditions, this study aims to analyze students' learning styles in supporting differentiated instruction at SD Negeri 1 Rowoharjo. This research combines a PRISMA-based Systematic Literature Review (SLR) with a qualitative field study to identify variations in students' learning styles and the differentiation strategies implemented by teachers during the learning process. Therefore, this study is expected to provide both theoretical contributions and practical recommendations for improving the effectiveness of learning in elementary schools.

B. Research Method

This study employed the Systematic Literature Review (SLR) method to identify, analyze, and synthesize previous research related to students' learning styles in supporting differentiated instruction at the elementary school level. The SLR approach was selected because it provides a systematic, structured, and comprehensive review of existing studies, enabling a deeper understanding of the research topic.

The review process followed the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) guidelines. The study consisted of four stages: identification, screening, eligibility assessment, and inclusion of articles. Research data were collected from scientific databases, including Google Scholar, Scopus, and Garuda, using the keywords "learning styles," "differentiated instruction," "elementary school," "students' learning styles," and "differentiated learning."

The inclusion criteria were as follows: (1) scholarly articles discussing learning styles and differentiated instruction; (2) studies conducted at the elementary school

level; (3) articles published between 2020 and 2025; and (4) articles available in full-text format. Articles that were irrelevant to the research topic, duplicate publications, or non-scholarly sources were excluded from the analysis.

Data analysis was conducted using a qualitative descriptive approach through data reduction, classification, interpretation, and synthesis of research findings. The collected data were analyzed to identify patterns, trends, and relationships between students' learning styles and the implementation of differentiated instruction. The findings are presented in a descriptive form to provide a comprehensive understanding of the effectiveness of differentiated instruction based on the learning style characteristics of elementary school students.

C. Results and Discussion

Based on the complete PRISMA screening process, 11 articles out of the initial 47 identified studies met all inclusion criteria and were selected as the primary sources for this review. These articles were published between 2021 and 2025 and focused on elementary school students' learning styles in relation to instructional strategies, particularly differentiated instruction. A summary of the selected studies is presented in Table 2.

Table 2. Summary of Articles Included in the Systematic Literature Review

No	Author(s) & Year	Focus of Study	Method	Key Finding
1	Himmah & Nugraheni (2023)	Learning style analysis for differentiated instruction	Descriptive qualitative	Students exhibit diverse learning styles; strategy adaptation based on differentiation is needed
2	Wudda & Adri (2025)	Learning styles in project-based learning at elementary school	Qualitative	Learning styles influence students' participation in PBL
3	Djara et al. (2023)	Effect of learning styles on student achievement	Quantitative	Learning styles correlate significantly with learning outcomes
4	Rahmah (2022)	Analysis of learning styles in Grade IV science learning	Descriptive qualitative	VAK distribution varies; kinesthetic is relatively dominant
5	Wibowo et al. (2023)	Learning styles in differentiated	Qualitative	Process differentiation effectively

Table 1. Literature Selection Flow Based on the PRISMA Protocol

PRISMA Stage	Criteria	Number of Articles
Identification	Articles retrieved from database searches (Google Scholar, SINTA, national journals)	47 articles
Screening	Duplicate articles and those irrelevant to learning styles or differentiated instruction in elementary school were removed	28 articles remaining
Eligibility	Articles were assessed for topical relevance, methodological clarity, and full-text accessibility	17 articles excluded
Inclusion	Articles addressing learning styles and/or differentiated instruction in elementary school, published 2021–2025, in Indonesian or English	11 final articles

		Bahasa Indonesia instruction at elementary school		accommodates diverse learning styles	academic development when appropriately facilitated.
6	Andriani & Nugraheni (2024)	Characteristics of learning styles in differentiated instruction	Descriptive qualitative	Early learning style mapping enhances the effectiveness of differentiation	
7	Telaumbanua & Harefa (2024)	Effect of learning styles on student learning outcomes	Correlational quantitative	Learning styles positively influence academic achievement	
8	Hafizha et al. (2022)	Teachers' understanding of students' learning styles at SDN 020 Ridan Permai	Descriptive qualitative	Teacher understanding has a tangible effect on instructional adaptation	
9	Mahendra et al. (2024)	Analysis of learning styles in relation to differentiated instruction	Descriptive	Learning styles serve as the primary reference in designing differentiation	
10	Lestari & Djuhan (2021)	Analysis of VAK learning styles in developing student achievement	Literature study	VAK learning styles have a clear effect on academic achievement	
11	Hilman et al. (2023)	Learning style analysis through non-cognitive diagnostic assessment	Descriptive qualitative	Diagnostic assessment is effective for identifying learning styles at the outset	

Variations in Students' Learning Styles: Literature Synthesis and Field Findings

The literature synthesis revealed that elementary school students' learning styles are heterogeneous and are not dominated by a single pattern. Rahmah (2022) found that visual, auditory, and kinesthetic learning styles were relatively evenly distributed among students, although kinesthetic tendencies appeared to be more dominant. Similar findings were reported by Lestari and Djuhan (2021), who explained that all VAK learning styles coexist within a classroom and contribute to students'

academic development when appropriately facilitated.

Djara et al. (2023) and Telaumbanua and Harefa (2024) further supported these findings by demonstrating that learning styles have a significant positive relationship with students' learning outcomes. When instructional strategies are aligned with students' preferred learning styles, academic performance tends to improve.

Field findings at SD Negeri 1 Rowoharjo showed a similar pattern. The Islamic Religious Education teacher reported that most students understood learning materials more effectively through hands-on activities, simulations, and educational games, indicating a tendency toward kinesthetic learning styles. Likewise, the fourth-grade classroom teacher explained that diverse learning styles exist within the same classroom, requiring the use of varied instructional methods to ensure that all students can actively participate in the learning process.

Implementation of Differentiated Instruction

The review findings indicate that the identification of learning styles is

closely related to the implementation of differentiated instruction. Himmah and Nugraheni (2023) and Andriani and Nugraheni (2024) explained that learning style analysis serves as an essential first step in designing effective differentiated instruction. Wibowo et al. (2023) also found that process differentiation is more effective in accommodating students' diverse learning styles than uniform instructional approaches.

Mahendra et al. (2024) and Hilman et al. (2023) emphasized that learning styles should serve as a primary basis for planning differentiated instruction. Furthermore, Hilman et al. (2023) recommended the use of non-cognitive diagnostic assessments to systematically identify students' learning style preferences.

Findings from SD Negeri 1 Rowoharjo indicated that teachers are aware of the diversity of students' learning styles and have implemented various strategies, including the use of visual media, classroom discussions, and hands-on activities. However, differentiated instruction is still implemented on a situational basis and is not yet supported by a structured mapping of students'

learning styles. This condition highlights the need for more systematic guidelines and assessment instruments to ensure the sustainable implementation of differentiated instruction.

Implications for Learning Effectiveness

The integration of literature findings and field evidence suggests that understanding students' learning styles and implementing differentiated instruction are two interconnected aspects that contribute significantly to improving learning effectiveness in elementary schools. The VARK model has proven to be relevant and practical within the Indonesian elementary school context, as it can be applied through simple assessment procedures.

The findings of this study emphasize that enhancing teachers' ability to identify students' learning styles and systematically implement differentiated instruction is a crucial strategy for improving the quality of teaching and learning in elementary education.

D. Conclusion

This study produced three main conclusions. First, the results of the PRISMA-based Systematic Literature Review of 11 selected articles indicate that elementary school students demonstrate heterogeneous learning styles, with a predominance of kinesthetic learning preferences, followed by visual and auditory styles. Second, the field findings at SD Negeri 1 Rowoharjo reveal that teachers are aware of the diversity of students' learning styles and have attempted to accommodate these differences through various instructional methods. However, the implementation of differentiated instruction remains situational and is not yet supported by a systematic mapping of students' learning styles. Third, the effectiveness of differentiated instruction is strongly influenced by the quality of learning-style identification conducted at the beginning of the learning process. Therefore, teachers require structured guidelines and assessment instruments to implement differentiated instruction in a planned, measurable, and student-centered manner.

DAFTAR PUSTAKA

- Andriani, F., & Nugraheni, N. (2024). Analisis karakteristik gaya belajar siswa dalam pembelajaran berdiferensiasi. *Jurnal Riset Pendidikan Dasar (JRPD)*, 33–41. <https://doi.org/10.30595/jrpd.v5i1.16067>
- DePorter, B., & Hernacki, M. (2004). *Quantum learning: Membiasakan belajar nyaman dan menyenangkan*. Kaifa.
- Djara, J. I., Imaniar, M., Sae, E., & Anin, S. (2023). Pengaruh gaya belajar terhadap hasil belajar siswa. *Jurnal Pendidikan dan Kebudayaan (JURDIKBUD)*, 3(2), 226–233. <https://doi.org/10.55606/jurdikbud.v3i2>
- Hafizha, D., Ananda, R., & Aprinawati, I. (2022). Analisis pemahaman guru terhadap gaya belajar siswa di SDN 020 Ridan Permai. *Jurnal Review Pendidikan Dasar: Jurnal Kajian Pendidikan dan Hasil Penelitian*, 8(1), 25–33. <https://doi.org/10.26740/jrpd.v8n1.p25-33>
- Hilman, I., Akmal, R., & Nugraha, F. (2023). Analisis gaya belajar peserta didik melalui assessment

- diagnostik non kognitif pada pembelajaran diferensiasi di sekolah dasar. *Naturalistic: Jurnal Kajian dan Penelitian Pendidikan dan Pembelajaran*, 8(1), 161–167. <https://doi.org/10.35568/naturalistic.v8i1.3911>
- Himmah, F. I., & Nugraheni, N. (2023). Analisis gaya belajar siswa untuk pembelajaran berdiferensiasi. *Jurnal Riset Pendidikan Dasar (JRPD)*, 31–39. <https://doi.org/10.30595/jrpd.v4i1.16045>
- Lestari, S., & Djuhan, M. W. (2021). Analisis gaya belajar visual, auditori dan kinestetik dalam pengembangan prestasi belajar siswa. *JIIPSI: Jurnal Ilmiah Ilmu Pengetahuan Sosial Indonesia*, 1(2), 79–90. <https://doi.org/10.21154/jiipsi.v1i2.250>
- Mahendra, A. A., Patonah, S., Sari, A. P. P., & Siswanto, J. (2024). Analisis gaya belajar terhadap pembelajaran berdiferensiasi. *Jambura Journal of Community Empowerment*, 318–329. <https://doi.org/10.37411/jjce.v5i2.3270>
- Miles, M. B., & Huberman, A. M. (1994). *Qualitative data analysis: An expanded sourcebook* (2nd ed.). Sage Publications.
- Moleong, L. J. (2021). *Metodologi penelitian kualitatif (Edisi revisi)*. PT Remaja Rosdakarya.
- Nasution, S. (2022). *Berbagai pendekatan dalam proses belajar mengajar*. Bumi Aksara.
- Page, M. J., McKenzie, J. E., Bossuyt, P. M., Boutron, I., Hoffmann, T. C., Mulrow, C. D., ... & Moher, D. (2021). The PRISMA 2020 statement: an updated guideline for reporting systematic reviews. *bmj*, 372. <https://doi.org/10.1136/bmj.n71>
- Rahmah, N. L. (2022). Analisis gaya belajar siswa pada pembelajaran IPA kelas IV SD. *Jurnal Ilmiah Multidisiplin*, 1, 9–14. <https://jurnal.arkainstitute.co.id/index.php/nautical/index>
- Subagja, S., & Rubini, B. (2023). Analysis of student learning styles using fleming's vark model in science subject. *Jurnal Pembelajaran Dan Biologi Nukleus*, 9(1), 31-39. <https://doi.org/10.36987/jpbn.v9i1.3752>
- Sugiyono. (2022). *Metode penelitian kuantitatif, kualitatif, dan R&D*. Alfabeta.

- Telaumbanua, E. D. P., & Harefa, A. R. (2024). Pengaruh gaya belajar terhadap hasil belajar siswa. *Journal of Education Research*, 5(1), 691–697. <https://doi.org/10.37985/jer.v5i1.873>
- Wibowo, A. T., Nuvitalia, D., & Wakhyudin, H. (2023). Analisis gaya belajar dalam pembelajaran berdiferensiasi pada mata pelajaran Bahasa Indonesia di SD Negeri Sendangmulyo 02. *Didaktik: Jurnal Ilmiah PGSD STKIP Subang*, 9(2), 3878–3890. <https://doi.org/10.36989/didaktik.v9i2.1227>
- Wudda, R. F., & Adri, H. T. (2025). Analisis gaya belajar dalam pembelajaran berbasis proyek di SDN Bojonglongok. *Didaktik Global: Jurnal Ilmu Kependidikan*, 2(2), 193–208. <https://www.didaktikglobal.web.id/index.php/adri/article/view/35>