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# Dominant Visual Learning Styles Among Students: Implications for Differentiated Learning

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**ABSTRAK**

Dalam pembelajaran berdiferensiasi, gaya belajar siswa harus diperhatikan agar guru dapat menentukan strategi pembelajaran yang tepat untuk memenuhi semua kebutuhan belajar siswa, Tujuan penelitian ini untuk mendeskripsikan dan melakukan pengecekkan terhadap gaya belajar siswa. Metode yang digunakan adalah metode deskriptif kualitatif. disimpulkan bahwa gaya belajar siswa kelas VII SMP Negeri 3 Banyuresmi didominasi oleh gaya belajar visual. Hasil pengumpulan angket, wawancara, dan observasi dilakukan sebagai cara untuk melakukan pengecekan (klarifikasi) atas hasil tes gaya belajar yang dilakukan pada laman akupintar. Ternyata ketiga siswa yang diambil sebagai objek penelitian menunjukkan hasil dominan gaya belajar visual, padahal menurut hasil tes pada laman akupintar siswa tersebut memiliki gaya belajar visual, auditori, dan kinestetik. Tes gaya belajar ini perlu dilakukan agar guru dapat mempersiapkan strategi pembelajaran berdiferensiasi yang tepat untuk memenuhi kebutuhan belajar siswa sesuai dengan gaya belajar yang berbeda-beda.

**Kata Kunci**: Gaya Belajar; Berdiferensiasi; Pembelajaran Berdiferensiasi.

**ABSTRACT**

In differentiated learning, students' learning styles must be taken into account so that teachers can determine appropriate strategies to meet all students' learning needs. This research aims to describe and analyze students' learning styles. The method used is a qualitative descriptive approach. The findings indicate that the learning styles of Class VII students at SMP Negeri 3 Banyuresmi are predominantly visual. Questionnaires, interviews, and observations were conducted to cross-check and clarify the results of the learning style tests administered on the Akupintar platform. The analysis revealed that the three students selected as research subjects exhibited dominant visual learning styles, even though the test results on the Akupintar platform indicated that these students possessed a combination of visual, auditory, and kinesthetic learning styles. Conducting learning style assessments is essential for enabling teachers to design suitable differentiated learning strategies that address the diverse learning needs of students.

**Keywords**: Learning Style; Differentiate; Differentiated Learning.

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## 1. INTRODUCTION

The *Independent Curriculum* (*Kurikulum Merdeka*) aims to cultivate students' interests and talents by emphasizing essential content, character development based on the Pancasila Student Profile, and student competencies. Its implementation is gradual, tailored to the readiness of each educational institution. Commonly referred to as *Merdeka Belajar* or "Freedom to Learn," this curriculum aspires to create a joyful and engaging learning environment for educators, students, and parents alike (Syukir, as cited in Salsabila, Jannah, & Juanda, 2023). Furthermore, *Merdeka Belajar* liberates the education system from restrictive boundaries, empowering both educators and learners to creatively develop their skills and interests (Asbari & Santoso, 2023; Olivia et al., 2024).

The implementation of the *Independent Curriculum* offers three key advantages (Ghassani et al., 2023; Sunaryo, Solihah, & Yulisma, 2024). First, it simplifies and deepens learning by focusing on essential content and developing students' competencies at each stage. Second, it integrates relevant and interactive project-based activities. Third, it provides flexibility for teachers to adapt learning to students' abilities, incorporating local content and contextualizing it to the school environment. This flexibility allows educators to align their teaching with students' developmental stages and learning preferences.

The curriculum promotes the concept of differentiated learning, enabling teachers to interact with students at levels aligned with their knowledge and learning preferences. Differentiated learning seeks to create equitable opportunities for all students by bridging the gap between high-achieving and less proficient learners. While ideal in theory, differentiated instruction presents challenges for teachers to enhance their creativity in teaching. Through this approach, students' potential is developed based on their needs, characteristics, and achievements. Differentiated learning fosters an inclusive environment, acknowledging that each student is unique and requiring instructional methods that accommodate diverse conditions (Purnawanto, 2023).

Differentiated learning is an instructional strategy in which teachers employ diverse teaching methods to meet individual students' needs. These needs may include prior knowledge, learning preferences, interests, and subject comprehension (Balai Besar Guru Penggerak; Sukardi, Afifi, & Ali, 2023; Krisma, Muqtada, & Khasanah, 2024). Teachers address these differences through differentiation in content, assessment, and approaches to ensure that instructional materials are adjusted to students' needs, abilities, and learning styles. Key factors in differentiated learning include content, process, product, and learning environment. The goal is to ensure that classroom learning is equitable while instructional materials, assessments, and delivery methods vary based on individual students' needs and learning styles.

According to Maryam (2021), differentiated learning is characterized by inviting learning environments, clearly defined learning objectives, ongoing assessment, responsiveness to students' learning needs, and effective classroom management. A suitable model for this approach is Problem-Based Learning (PBL), which centers on student engagement in solving real-world problems (Awalia, 2023). PBL activities can be adapted to students' learning styles, allowing contextual problems to align with their preferences and potential (Suyadi, 2013; Pratama & Mardiani, 2022).

The four components of differentiated learning—content, process, product, and learning environment—are essential for tailoring instruction. Content differentiation involves adapting learning materials to individual students' needs, including learning styles and disabilities. Process differentiation focuses on how students process information and ideas, requiring teachers to design activities that accommodate diverse learning needs. Product differentiation emphasizes the outcomes of learning, enabling teachers to gauge students' understanding and plan subsequent instruction. Finally, the learning environment encompasses the physical and social conditions that support students' engagement and comfort in the learning process (Marlina, 2019).

Research by Yani (2023) highlights that differentiated learning enriches students' experiences and understanding of the learning process. In the context of the *Independent Curriculum*, differentiation sharpens the profile of Pancasila students while fostering diverse learning experiences (Kaplan, 2023; Lu, 2021). Differentiation strategies in classrooms may include content, process, and product adjustments based on students' abilities, interests, and learning profiles. This iterative process develops tailored activities and allows students to express their learning aspirations.

Understanding individual learning styles is critical for teachers to tailor instruction effectively. Learning styles—visual, auditory, and kinesthetic—represent how students absorb, process, and retain information (DePorter et al., 2008). Visual learners benefit from diagrams, notes, and visual aids, auditory learners prefer discussions and oral explanations, while kinesthetic learners thrive in hands-on and experiential learning settings (Irawati et al., 2021). By identifying students' unique learning styles, teachers can address learning challenges and help students achieve better outcomes.

Research shows that most students do not rely exclusively on one learning style but demonstrate a combination of visual, auditory, and kinesthetic preferences. For instance, a study by Alfiyana et al. (2023) found that students exhibit varied learning styles, with 54% visual, 14% auditory, and 32% kinesthetic. Similarly, Alhafiz (2022) observed that differentiated instruction facilitates diverse student needs, although many educators have yet to fully adopt diagnostic assessments, including learning style tests (Wibowo et al., 2023).

Differentiated learning within the *Independent Curriculum* is essential for accommodating diverse student needs. Teachers must analyze learning styles to align instructional methods with students' preferences and abilities. By doing so, educators can create equitable and effective learning experiences that maximize students' potential and foster their academic growth.

## 2. METHOD

This study employed a qualitative descriptive method, categorized as field research. Field research focuses on existing phenomena, aiming to understand and analyze them in depth. By adopting a qualitative approach, the study seeks to provide a comprehensive and holistic description of individual behaviors observed within specific contextual conditions. This approach emphasizes capturing phenomena from a complete perspective, yielding insights that are thorough and multidimensional. The primary objective of qualitative research is to understand social phenomena by offering clear descriptions of these phenomena in the form of narratives, which ultimately contribute to the development of theories (Sari, 2020).

In this qualitative descriptive research, the data collected primarily consist of words or images rather than numerical values. While some numerical data are included, they serve only as supporting information. The data sources for this study include questionnaires, interview summaries, and observation sheets. The research was conducted at SMP Negeri 3 Banyuresmi, specifically in Class VII C. This class was selected because no prior learning style tests had been conducted there, and the class had recently implemented the "Merdeka Curriculum," which incorporates differentiated learning strategies.

The population for this study comprised all 319 students at SMP Negeri 3 Banyuresmi, while the sample consisted of 24 students from Class VII C. Further, the study focused on three individual students, each representing one of the three primary learning styles: visual, auditory, and kinesthetic. These individuals were selected based on the results of a learning style test conducted on the *Akupintar* platform. The research instruments included the learning style questionnaire available on the *Akupintar* website (https://akupintar.id/tes-gaya-belajar), additional learning style questionnaires, observation sheets, and interview guidelines.

Data analysis commenced after all necessary data had been collected. During this stage, the researcher organized the data into field notes and documentation. The qualitative data analysis followed the Miles and Huberman model, which consists of three main activities: data reduction, data display, and conclusion drawing/verification. Data reduction involves condensing the collected information to focus on the most relevant aspects, data display presents the processed data in an organized and interpretable manner, and conclusion drawing/verification involves interpreting the findings and confirming their validity.

## 3. RESULT AND DISCUSSION

Before collecting data through questionnaires, interviews, and observations, the researcher conducted a learning style test using the platform https://akupintar.id/tes-gaya-belajar. The results of the learning style test from the platform are presented in Table 1.

Table 1. Learning Style Test Results of Students

| No | Student | Learning Style Percentage (%) | | | Students' Learning Style |
|---|---|---|---|---|---|
| | | Visual | Auditory | Kinesthetic | |
| 1 | S1 | 63 | 26 | 10 | Visual |
| 2 | S2 | 13 | 33 | 53 | Kinesthetic |
| 3 | S3 | 50 | 20 | 30 | Visual |
| 4 | S4 | 30 | 26 | 43 | Kinesthetic |
| 5 | S5 | 36 | 6 | 56 | Kinesthetic |
| 6 | S6 | 13 | 33 | 53 | Kinesthetic |
| 7 | S7 | 40 | 30 | 30 | Visual |
| 8 | S8 | 16 | 36 | 46 | Kinesthetic |
| 9 | S9 | 13 | 46 | 40 | Auditory |
| 10 | S10 | 33 | 40 | 26 | Auditoriy |
| 11 | S11 | 33 | 23 | 43 | Kinesthetic |
| 12 | S12 | 20 | 30 | 50 | Kinesthetic |
| 13 | S13 | 23 | 40 | 36 | Auditoriy |
| 14 | S14 | 26 | 26 | 46 | Kinesthetic |
| 15 | S15 | 40 | 26 | 33 | Visual |
| 16 | S16 | 46 | 26 | 26 | Visual |
| 17 | S17 | 26 | 20 | 53 | Kinesthetic |
| 18 | S18 | 43 | 36 | 20 | Visual |
| 19 | S19 | 26 | 30 | 43 | Kinesthetic |
| 20 | S20 | 30 | 43 | 26 | Auditory |
| 21 | S21 | 13 | 60 | 26 | Auditoriy |
| 22 | S22 | 33 | 23 | 43 | Kinesthetic |
| 23 | S23 | 13 | 46 | 40 | Auditory |
| 24 | S24 | 30 | 36 | 33 | Auditory |

Based on the learning style test results, the researcher selected one student from each learning style category as samples for the subsequent research: S1 for the visual learning style, S21 for the auditory learning style, and S17 for the kinesthetic learning style. Additional data were collected through the distribution of VAK learning style questionnaires. Data reduction was performed on each sample, and the results are displayed in Table 2.

Table 2. Students' VAK Learning Style Results

| Learning Style Dimension | Statement Number | Statement Quantity | Student 1 (V) | | Student 21 (A) | | Student 17 (K) | |
|---|---|---|---|---|---|---|---|---|
| | | | Total | Percentage | Total | Percentage | Total | Percentage |
| Visual | 1, 2, 3, 4, 13, 14, 15, 16, 20, 25, 26, 27, 28, 29, 37, 38 | 16 | 11 | 50% | 11 | 39,29% | 12 | 50% |
| Auditory | 5, 6, 7, 8, 9, 17, 18, 19, 30, 31, 32, 33, 40 | 13 | 7 | 31,82% | 10 | 35,71% | 8 | 33,33% |
| Kinesthetic | 10, 11, 12, 21, 22, 23, 24, 34, 35, 36, 39, 41, 42 | 13 | 4 | 18,18% | 7 | 25% | 4 | 16,67% |
| Total | | 42 | 22 | 100% | 28 | 100% | 24 | 100% |

Table 2 shows that the three students have a tendency towards visual learning styles. Student 1 has a visual percentage of 50%, auditory 31, 82%, and 18.18% kinesthetic; student 21 has a percentage of 39.29% visual, 35.71% auditory, and 25% kinesthetic; and student 17 has a visual percentage of 50%, auditory 33.33%, and kinesthetic of 16.67%.

The overall results of the learning style questionnaire administered to the students are presented in the form of a bar chart in Figure 1.

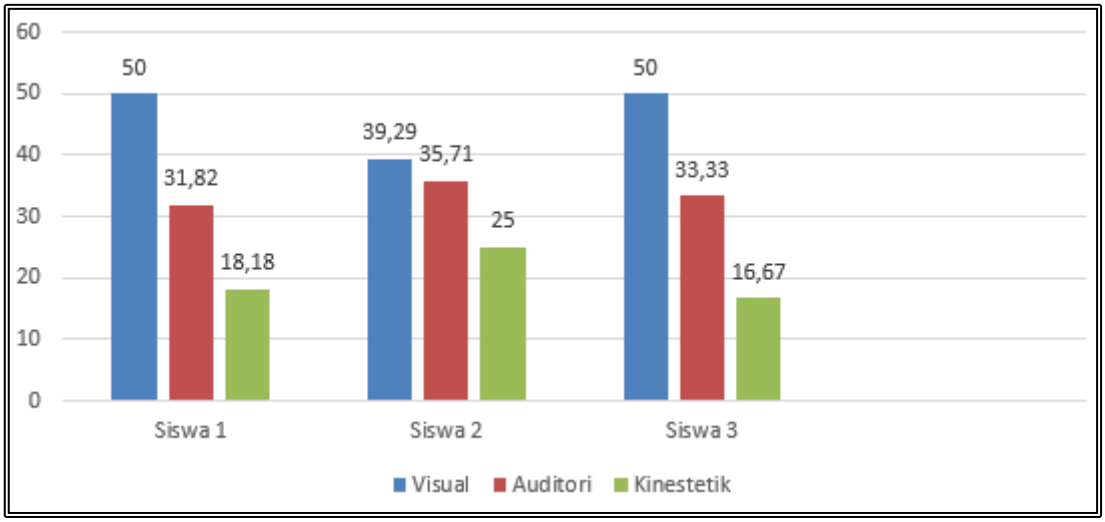
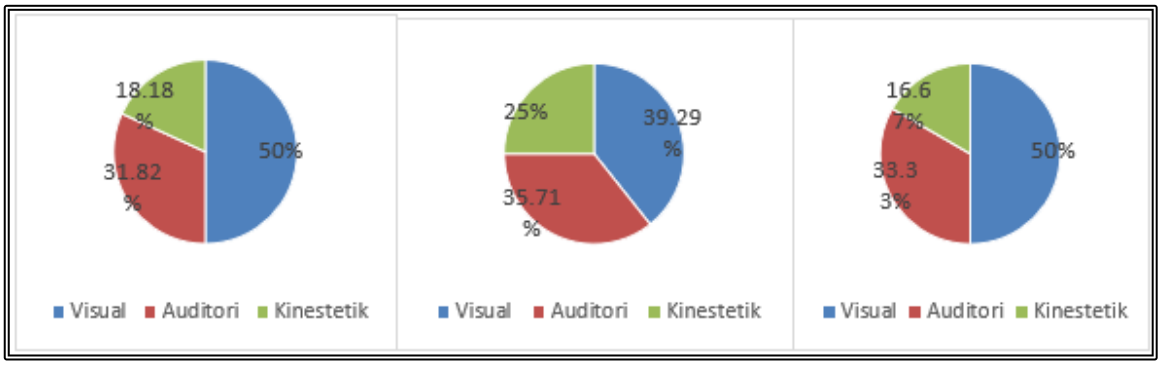



Figure 1. Student Learning Style Questionnaire Results

The findings for each student's learning style are further analyzed and presented in Figure 2.




(a) (b) (c)

Figure 2. VAK Learning Style Diagram

Figure 2 illustrates the questionnaire results for each student: S1 (visual, 2.a), S21 (auditory, 2.b), and S17 (kinesthetic, 2.c). The diagram reveals that S1 exhibits a 50% tendency toward a visual learning style. This suggests that the student is organized, attentive to details, maintains appearance, remembers information through visuals, prefers reading over listening, and needs a clear, holistic understanding of tasks. S1 also shows a 35.71% tendency toward an auditory learning style, indicating a lesser inclination to behaviors such as rhythmic speech, learning through listening, mouthing words while reading, and engaging in internal or external dialogue. The kinesthetic learning style for S1 is observed at 16.67%, reflecting minimal tendencies toward physical engagement, such as frequent movement, learning by doing, and remembering information while walking or pointing to text while reading.

Interestingly, data verification revealed discrepancies between the platform-based learning style tests and the questionnaire results. While students S21 and S17 were identified as auditory and kinesthetic learners, respectively, through the platform test, the questionnaire results indicated a dominant visual learning style for both students.

This conclusion aligns with the findings of Sari (2020), who reported that most fifth-grade students at SD Negeri 113 Bengkulu Selatan during the 2019/2020 academic year demonstrated a dominant visual learning style, with a preference for reading over listening. Similarly, Inayah (2020) found that academically high-achieving fourth-grade students at SD Negeri 221/IX Mingkung exhibited a combination of VAK learning styles, with two out of three students favoring a visual learning style and one an auditory learning style.

Another analysis by Inayah (2021) examined the learning characteristics of fifth-grade students at SD Negeri 51 Mulaeno, Bombana Regency, using the VAK model in science learning. The study revealed that visual characteristics were highly dominant.

Furthermore, a 2023 study by Azizah, Usman, Fauzi, and Rosita (2023) at SMAN 2 Wuluhan found that tenth-grade students had diverse learning styles, with 54% visual, 14% auditory, and 32% kinesthetic.

Ermawati and Usman (2024) analyzed learning styles to implement differentiated learning for Class X2 students at SMA Negeri Rambipuji. Their findings showed that 35.3% of students exhibited both visual and kinesthetic learning styles, while 29.4% demonstrated auditory tendencies.

Although these studies highlight a general preference for visual learning styles, they also emphasize that students often possess a combination of visual, auditory, and kinesthetic characteristics, with one style being more dominant. Learning style analysis is a crucial step for teachers in implementing differentiated learning to meet the diverse learning needs of students and maximize their potential.

## 4. CONCLUSION

Based on the results of the study, it can be concluded that the learning styles of Class VII students at SMP Negeri 3 Banyuresmi are predominantly visual. Data collection through questionnaires, interviews, and observations was conducted to validate and clarify the results of the learning style tests administered on the Akupintar platform. Interestingly, the three students selected as research subjects demonstrated a dominant preference for visual learning styles. However, according to the test results from the Akupintar platform, these students exhibited a combination of visual, auditory, and kinesthetic learning styles. Conducting learning style assessments is crucial to enable teachers to design appropriate differentiated learning strategies that cater to students' diverse learning needs. Differentiated instruction is expected to facilitate all students in enhancing their learning competencies by providing tailored approaches aligned with their individual learning styles.

Based on the findings and discussion, conducting learning style assessments is essential, particularly at the beginning of the academic year, to allow teachers to accommodate all students' learning needs. Learning style assessments should not rely solely on a single method; follow-up tests are necessary to confirm the initial results. Teachers must also be capable of designing instruction that addresses students' needs and potentials based on their respective learning styles. Additionally, students should develop techniques and strategies that enhance their ability to understand subject matter, thereby improving the effectiveness of their learning outcomes.

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