EFFECTIVE LEARNING STYLE:
THE KEY TO SUCCESS IN THE EDUCATION PROCESS

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Abstract

An effective learning process requires an approach that accommodates the diversity of student learning styles, including those with high intellectual intelligence (IQ) who may not yet recognize their optimal way of learning. Each individual has a different way of absorbing, processing, and storing information, making the understanding of learning styles a crucial aspect in education. This study aims to identify effective learning styles, particularly for students with high intellectual intelligence (IQ) who have not yet understood their appropriate learning style, and to analyze various factors that influence learning success. This research uses a library research method by analyzing recent scientific literature. The findings indicate that visual, auditory, and kinesthetic learning styles can all enhance learning effectiveness when integrated with appropriate teaching strategies, high learning motivation, and a conducive learning environment. Teachers play a central role in recognizing student characteristics and adapting their teaching approach accordingly. Understanding learning styles not only impacts academic achievement but also creates a more personalized, inclusive, and adaptive learning atmosphere. This study highlights the importance of a holistic approach in education, involving the interconnection between learning styles, intellectual potential, teaching strategies, and the learning environment to realise a higher-quality education system that is responsive to each learner's needs. This research contributes a novel perspective by focusing on the group of high-IQ students and advocating for the integration of individualized learning styles into classroom practice to achieve a more inclusive, adaptive, and high-quality education system.

Keywords: Inclusive Education; Learning Effectiveness; Learning Styles; Teaching Strategies; High IQ

A. Introduction

The educational process is a systematic and directed effort to optimally develop the potential of students, both from the cognitive, affective, and psychomotor aspects. (Jean Imaniar Djara et al. 2023) However, in practice, the effectiveness of learning still faces various challenges, one of which is the diversity of learning styles of students. Each individual has a different way of absorbing, processing and storing information. These differences reflect certain

learning preferences or tendencies known as learning styles. (Harijanto, Rungkat, and Rogahang 2023) Learning styles are not just habits, but reflect the way a person's brain and perceptual system work in understanding information. The mismatch between the learning methods applied by teachers and the learning styles of students often leads to low levels of understanding of the material, lack of participation in class, and suboptimal academic achievement. In this context, it is important for educators to recognize and understand variations in student learning styles so that the learning process can take place effectively, efficiently and meaningfully.

This phenomenon is even more complex when there are students with high levels of intellectual intelligence (IQ) who do not show optimal learning achievement. This is generally caused by the educator's lack of understanding of learning styles that are in accordance with the characteristics of these students. As a result, the intellectual potential that should be able to develop optimally is neglected, and students appear inactive in the learning process. Education that accommodates the needs of individual learning styles not only increases student motivation and engagement, but also creates a more inclusive, adaptive and quality learning environment. In line with the goals of national education, the success of the education process is characterized by the ability of education units to provide services that suit the learning needs of students. One important aspect in achieving this is an understanding of learning styles. In this context, learning style cannot be seen as the only determinant of learning outcomes, but needs to be understood together with other factors such as learning motivation, learning methods, and a supportive learning environment.

Previous studies have shown mixed results regarding the relationship between learning styles and student learning outcomes. Erawati et al. (2024) concluded that there is no significant relationship between learning styles and learning outcomes, suggesting that other factors may be more dominant in determining academic success. In contrast, Rusli et al. (2023) found that auditory learning style contributed positively to economic learning outcomes, indicating the influence of certain learning styles on certain subject areas. Sinaga (2022) added that learning style and motivation jointly contributed to math learning achievement, with motivation as the dominant factor, highlighting the important role of students' internal factors. Research by Farman et al. (2021) shows that the majority of students have multimodal learning styles, and there are no significant differences based on class or gender, so the application of flexible and adaptive learning strategies is recommended.

Meanwhile, Octamaya Tenri Awaru et al. (2020) found that the majority of high-achieving students in Sinjai Regency have a Converger learning style (56.5%), which tends to solve problems practically and logically. Understanding this learning style can help improve learning effectiveness. Furthermore, Nurhayati and Henitha Tabita Deity Penna (2023) stated that there is a positive correlation between learning styles and academic achievement in English learning, which indicates that appropriate learning styles can support optimal student achievement. These findings confirm the importance of considering learning style variations in lesson planning, although the effect may vary depending on the context and subject being studied.

Based on these findings, it can be concluded that the effectiveness of learning styles depends heavily on how they are combined with teaching strategies, students' internal motivation, and a supportive learning environment. Therefore, effective learning styles are not only about recognizing individual learning preferences, but also how they are integrated into the overall educational process. Although many students have high IQs, not a few of them do not understand the learning style that suits them best. This mismatch hinders the learning process and makes students appear less active. Other issues that arise include a lack of understanding of effective learning styles, low awareness of factors influencing learning success, and the suboptimal application of learning strategies tailored to students' characteristics. (Hayati and Wijayanti 2023) Based on this background, this study aims to identify effective learning styles for students, particularly those with high IQ levels, analyze various factors that influence learning success, and explain the relationship between understanding learning styles and improving the effectiveness and learning outcomes of students. With an integrative and adaptive approach, it is hoped that the results of this study can make a real contribution to improving the quality of the educational process through more targeted learning strategies that are tailored to the learning needs of each individual.

The benefits of this research are to provide educators and education policymakers with a more comprehensive understanding of the importance of identifying and accommodating students' learning styles in the learning process. This research is expected to serve as a basis for designing learning strategies that are more personalized, adaptive, and oriented toward the individual needs of students, especially those with great potential that has not yet been fully realized. Additionally, the results of this research can be used as a basis for curriculum development and teacher training to make classroom educational practices more responsive to the diversity of students' learning styles. As a result, this approach

is expected to create a more inclusive learning environment, encourage active student engagement, and improve overall learning outcomes.

The novelty of this study lies in its integrative, adaptive, and contextual approach, highlighting the interrelationship between learning styles, students intellectual intelligence (IQ) levels, teachers learning strategies, learning motivation, and supportive learning environments. Unlike previous studies that tend to be linear, for example, only tracing the relationship between one type of learning style and academic achievement in a particular subject, this study maps the complex interactions between educational factors that influence the overall effectiveness of learning. Another novelty lies in the focus of the research population, namely students with high IQ levels, who are often overlooked in many studies because they are assumed to automatically achieve high performance. This study highlights the reality that high IQ does not guarantee learning success, especially if the learning approach provided does not align with their learning styles. Therefore, this study fills an important gap in educational literature, which has traditionally focused more on students with learning difficulties while neglecting the specific needs of high-potential students.

From a theoretical perspective, this study expands our understanding of the role of learning styles in a more dynamic educational context, taking into account intellectual, affective, and environmental dimensions. Its findings can serve as a conceptual basis for a differentiated learning model, which is designed based on the diversity of student characteristics rather than a uniform approach. In terms of practical contributions, the results of this study have the potential to serve as guidelines for educators and education policymakers in designing learning strategies that are more responsive to individual needs. Teachers are encouraged not only to recognize students' learning styles but also to integrate them into flexible learning methods, especially for students with high potential. This research also provides a foundation for the development of teacher training programs, particularly in developing pedagogical competencies related to learner-centered learning approaches. Overall, this research makes a significant contribution to improving educational quality, both at the classroom level and in broader educational policy, by placing learners at the center and making learning styles a strategic variable in creating effective, inclusive, and equitable learning processes.

B. Research Method

This study uses a qualitative approach with literature review as the main strategy in exploring and analyzing the concept of learning styles in the context of education. This method was chosen because it provides a deep theoretical foundation through systematic review of various relevant scientific literature sources. Data was collected from secondary literature, including academic books, scientific journal articles, conference proceedings, theses, dissertations, and research reports obtained through trusted digital platforms such as Google Scholar, ScienceDirect, DOAJ, ResearchGate, and university digital libraries. To ensure the currency and relevance of the data, the literature reviewed was limited to publications from the past five years, with inclusion criteria covering thematic relevance, academic quality of the source, and institutional affiliation of the authors.

The literature selection process was carried out in stages, beginning with a search using keywords. The literature found was then selected through a review of titles and abstracts, followed by a comprehensive review of the content to ensure its relevance to the focus of the study. Data analysis was carried out using thematic synthesis and comparative analysis techniques. Findings from various studies are grouped based on main themes, such as types of learning styles, the relationship between learning styles and learning outcomes, the association between learning styles and high IQ, and teachers' pedagogical responses to students' diverse learning styles. This process aims to identify conceptual patterns, research gaps, and integrate findings that can enrich theoretical and practical understanding of learning styles in the educational process.

Through this approach, the research not only summarizes previous research findings but also presents a critical analysis that enables the formulation of comprehensive arguments regarding the importance of implementing adaptive and responsive learning strategies tailored to individual learning needs. The results of this literature synthesis serve as a foundation for formulating theoretical and practical implications that can be adopted by educators and policymakers in developing inclusive, contextual, and student-centered learning models that maximize the potential of learners, particularly those with high intellectual abilities.

C. Research Results and Discussion

1. Types of Effective Learning Styles

The learning process is an activity that cannot be separated from the characteristics and uniqueness of each individual. This difference indicates that each learner has his or her own way of absorbing and processing information, known as learning style. So in simple terms, learning style can be understood as a typical way or approach that a person takes in the learning process.(Xiong 2025) Learning style is an individual's tendency to adopt certain strategies that are considered most effective for him. This tendency is usually formed through an active process of trying, evaluating, and adjusting learning strategies, until finally individuals find a learning pattern that best suits their learning needs and demands. (Jean Imaniar Djara et al. 2023)

An effective learning style is an approach to learning that not only suits one's personal preferences, but is also able to support the achievement of optimal learning goals. In a diverse educational context, learning effectiveness can no longer be measured by a single method that is the same for all students.(Harijanto, Rungkat, and Rogahang 2023) Each individual has different learning characteristics, potentials, and backgrounds, so strategies that are effective for one person may not necessarily provide the same results for another. Research also shows that learners who are aware of their learning styles and are able to combine several approaches flexibly tend to have better academic results. They don't just stick to one style, but are able to choose and adjust learning strategies based on their needs. The kinds of learning styles are divided into 3, namely:

Visual Learning Style

Visual learning style is a learning approach that emphasizes the power of vision in absorbing and understanding information (Kartina and Afriansyah 2024) According to S. Shoimatul Ula, this style involves activities such as seeing, observing, and reading as the main way in the learning process. Learners with a visual learning style tend to more easily understand material presented in the form of visually appealing images, diagrams, graphs, videos, or text. They have a tendency to be neat, organized, pay attention to detail, and remember better what they see compared to what they only hear. Other characteristics include speed of speech, planning skills, interest in attractive displays, and a preference for reading or demonstration over oral explanation. (Fajar, Mahardika, and Aini 2024) They also often scribble while thinking, prefer visual art to music, and are more comfortable responding with short answers. Although they excel in visual processing, they sometimes struggle to convey messages verbally if they are not

accompanied by writing. Therefore, effective learning for visual types should utilize media that accentuates visual elements, such as mind maps, infographics, colors, and attractive displays. By recognizing and optimizing visual learning styles, the education process can become more efficient and enjoyable, and encourage learners to achieve maximum learning outcomes according to their unique potential.

Auditory Learning Style

Auditory learning style relies on hearing to understand and remember. According to Shoimatul Ula, auditory learning style is a type of learning that emphasizes the sense of hearing. Learning through hearing something can be by listening to discussions, debates, verbal instructions. People with an auditorial learning style find it easier to digest, process, and convey information by listening directly. This auditorial learning style can digest the meaning of delivery through sound, speed of speech and other things auditorial listening. (Fajar, Mahardika, and Aini 2024) Students like this can memorize quickly by reading aloud through media such as radio, and others. From the explanation above, the author concludes that the auditorial learning style is a learning style that students have by relying on success in learning through their ears as a means of hearing. Individuals with auditory learning styles tend to absorb information through listening and speaking. They like to read aloud, discuss, and remember information through sound, rhythm, or tone.(Okta Priantini and Widiastuti 2021) Generally, they are fluent in speaking, good at telling stories, and prefer music to visual arts. They are easily distracted by ambient sounds and less comfortable with visual tasks. Oral spelling is easier for them than writing, and they enjoy oral jokes more than reading illustrated text.(Awaru et al. 2020).

Kinesthetic Learning Style

Kinesthetic learning style is a learning style that a person does to obtain information by doing experience, movement, and touch. According to Shoimatul Ula, kinesthetic learning style is learning through physical activity and direct involvement, which can be in the form of handling, a person or student who has a kinesthetic learning type prefers to learn or receive information through movement and touch. Based on the explanation above, the author concludes that the kinesthetic learning style is a learning style where a student does physical movement and touch because it will be easier to receive information through movement and touch. (Fajar, Mahardika, and Aini 2024) Individuals with kinesthetic learning styles learn through movement and hands-on practice. They are active, have difficulty sitting still, often use gestures when speaking, and

memorize more easily while moving. They like to touch, stand close when talking, and often tap when listening. They rely on their feelings to make decisions and generally enjoy physical activities such as sports.

2. Factors Affecting Success in Learning

Success in learning is influenced by various factors that are interrelated and cannot be separated from one another. Among them, there are four main factors that significantly contribute to the effectiveness of the learning process:

Individual Learning Style

Learning style is the distinctive way that each individual absorbs, processes and stores information. Generally, learning styles are categorized into three main types, namely visual (learning through images and vision), auditory (learning through sound and hearing), and kinesthetic (learning through movement and hands-on experience).(Hayati and Wijayanti 2023) Some learners even have multimodal learning styles, which combine two or more of these styles. When learners learn with an approach that suits their learning style, the process of understanding the material becomes more effective and enjoyable, thus significantly improving learning outcomes.(Winei et al. 2023).

Unfortunately, in educational practice, different learning styles are often ignored. One-way and uniform teaching approaches can make it difficult for learners whose learning styles do not match the methods applied. Therefore, it is important for teachers to recognize and understand each learner's learning style in order to design diverse and flexible learning strategies. When learning styles are well accommodated, students will feel valued, more confident, and motivated to be active in the learning process. (Studi et al. 2024)

Learning Motivation

Learning motivation is an internal and external factor that encourages students to engage in the learning process seriously. Intrinsic motivation comes from within the student, such as the desire to improve, curiosity, or personal satisfaction after understanding the material. (Argunsah, Altıntaş, and Şahiner 2025) Meanwhile, extrinsic motivation is triggered by external factors such as awards, academic grades, or encouragement from parents and teachers. When learning motivation is high, students are more diligent, passionate, and do not give up easily when facing learning challenges (Hakim et al. 2022).
Conversely, a lack of motivation can lead to low student engagement in learning, even though they have high intellectual potential. Motivation is also strongly influenced by the emotional relationship between teachers and learners, the

classroom atmosphere, and students' success in understanding previous material. Therefore, teachers need to create a positive, challenging yet fun learning atmosphere and provide constructive feedback. That way, students' motivation will continue to grow and support their learning success. (Winei et al. 2023)

Teacher Learning Strategies and Methods

The role of the teacher is crucial in creating effective learning. The learning strategies and methods used should be able to accommodate the diversity of learning styles and ability levels of students. Varied methods, such as group discussions, visual presentations, simulations, or hands-on experiments, allow students to learn with the approach that suits them best. Teachers who are able to choose and combine methods appropriately will find it easier to achieve optimal learning objectives.(Darma, Telaumbanua, and Harefa 2024).

Moreover, teachers also need to make adjustments based on learners' responses and needs in the classroom. Learning strategies that are too rigid and unresponsive to classroom dynamics will make students feel bored and less engaged.(Siswa, Mis, and Kempo 2025) Teachers who are sensitive to individual differences and able to apply differentiated learning approaches will create an inclusive and participatory learning atmosphere. This will ultimately have a positive impact on the overall achievement of student learning outcomes.(. et al. 2023)

A Supportive Learning Environment

The learning environment includes all physical, social, and psychological conditions that affect students' learning process. The physical environment such as a comfortable classroom, adequate lighting, and the availability of media and learning resources greatly support concentration and comfort in learning. In addition, a harmonious social environment, such as good relationships between students and teachers, creates an atmosphere that is safe and conducive to growing intellectually and emotionally (Febriani et al. 2025).

Equally important, a positive psychological environment also plays a major role in learning success. Learners who feel valued, accepted and supported will be more confident and dare to express opinions or ask questions when they do not understand the lesson (Magdalena and Luthfiyah 2020) Schools as educational institutions need to ensure that every learner has a safe space to develop according to their potential. By creating an overall supportive learning environment, the learning process will become more effective and meaningful (Sayyidatul Munnah, Syafira Ashna Putri Nuha, and Rani Setiawaty 2024)

3. The Relationship between Understanding Learning Styles and Improving Effectiveness and Student Learning Outcomes

Understanding learners' learning styles is a fundamental aspect in creating an effective and meaningful learning process. Each student has a unique way of receiving and processing information, such as visual, auditory, kinesthetic learning styles, or a combination of all three. Teachers who are able to recognise these differences in learning styles can design teaching strategies that are more targeted and personalised, so that the material presented can be received more optimally and enjoyably (Febriani et al. 2025) With this approach, students feel individually cared for and the learning process becomes more relevant to their needs. When students' learning styles are accommodated in learning methods, the effectiveness of the teaching and learning process increases significantly. For example, students who have a visual learning style will more easily understand concepts through pictures, diagrams, or videos, while auditory students are more helped by lectures, discussions, or oral explanations (Fathonah et al. 2023) Kinesthetic students, who learn well through physical activity and hands-on practice, will be more active and easily master the material if learning involves real experiences. Adjusting learning methods to this learning style makes it easier for students to engage, so that the knowledge transfer process runs more smoothly (Farman, Arbain, and Hali 2021)

In addition to improving the effectiveness of the learning process, understanding learning styles also has a positive effect on student learning outcomes. When learning is tailored to an individual's learning style, students can understand the material more deeply and retain it longer in their memory. This will certainly impact on improving academic performance because students do not just memorise, but really understand and are able to apply the concepts learned. Students' motivation to learn also increases because they feel comfortable and confident in participating in the learning process. Furthermore, understanding learning styles also plays a role in creating an inclusive and adaptive learning environment (Winei et al. 2023) An environment that supports diverse learning styles will provide equal opportunities for all students to develop according to their potential. This is very important given the diversity of abilities and backgrounds of learners in the classroom. Thus, teachers do not just teach uniformly, but are able to provide learning services that are flexible and responsive to individual needs, thus minimising the risk of students falling behind or losing interest in learning.(Students, Mis, and Kempo 2025)

The importance of understanding learning styles is also seen in efforts to overcome the problems of students with high potential but less than optimal

achievement. Often, students with high intellectual intelligence actually show less satisfactory learning results because the teaching method is not in accordance with their learning style. By recognising and accommodating these learning styles, teachers can open new pathways to optimise students' potential. This approach allows students to learn in the way that is most effective for them, so that their learning outcomes and engagement in the educational process can be significantly improved (Awaru et al. 2020) Overall, understanding and implementing effective learning styles is key in improving the overall quality of education. Learning styles are not just a matter of individual preference, but an important part of the learning system that must be integrated with other factors such as motivation, teaching methods and learning environment. With a holistic and personalised approach, education can be more inclusive, adaptive and able to develop the full potential of each learner. Therefore, developing teachers' knowledge and skills in recognising and applying learning styles needs to be the main focus in an effort to improve students' effectiveness and learning outcomes in a sustainable manner. (Sinaga 2022)

A. Conclusion

Understanding learners' learning styles is a crucial element in creating an effective, adaptive and inclusive learning process. Every student has different learning tendencies, whether visual, auditory or kinesthetic, which affect the way they absorb and process information. The mismatch between the teaching methods used by teachers and students' learning styles often leads to low comprehension of material, lack of participation in class, and suboptimal academic achievement, even in students with high intellectual intelligence. Therefore, teachers need to design responsive and flexible learning strategies to accommodate the diversity of learning styles in the classroom. Besides learning styles, other factors such as internal motivation, teaching strategies and methods, and a supportive learning environment also influence the overall success of the education process. When all these elements are well integrated, the learning process not only becomes more enjoyable and meaningful, but also able to encourage students to reach their best potential. This individual needs-orientated approach is expected to strengthen the quality of equitable education and provide a basis for developing policies, curricula and teacher training that are more relevant to today's educational challenges.

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