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The Importance of Identifying Early Childhood Learning Styles to Optimize Children's Achievement

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ABSTRACT

Early childhood education (PAUD) is an important stage in the cognitive, affective, and psychomotor development of children. Identification of children's learning styles from an early age allows educators to adjust learning methods according to the unique characteristics of the child, so that it can improve learning achievement and psychosocial development. This study examines the identification of learning styles of children aged 5-6 years in learning in PAUD, the influence of learning strategies that are in accordance with learning styles on the effectiveness and learning achievement, and the challenges faced by educators in their implementation. This study involved children aged 5-6 years in the surrounding environment for direct observation. The results showed that out of 9 children there was a dominant learning style, 4 children tended to have a visual learning style, 3 children had an auditory learning style, 2 children had a kinesthetic learning style and adjustment of learning methods could improve children's motivation, engagement, and learning outcomes. However, educators face obstacles in recognizing and implementing children's learning styles due to limited training and resources. To overcome this problem, teachers need to be given special training to understand and implement the right learning style for children. In addition, strengthening of facilities and infrastructure, as well as support from the surrounding environment is needed.

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INTRODUCTION

Early childhood education constitutes one of the most critical investments in human capital development globally. According to UNESCO (2022), approximately 300 million children under the age of five worldwide lack access to quality early childhood education, a gap that disproportionately affects children in rural and lower-income communities. UNICEF (2019) further emphasizes that children who receive high-quality early education are significantly more likely to succeed academically and develop positive social competencies. Within this global context, the early identification of children's individual learning characteristics emerges as a foundational pedagogical concern. Every young child is unique in the way they perceive, process, and retain information from their environment. Early childhood, particularly the 5–6 year age range, is widely recognized as the "golden period" of cognitive, affective, and psychomotor development, during which appropriate and individualized stimulation exerts a lasting influence on future learning trajectories (Sanjaya et al., 2023).

Learning style broadly defined as an individual's preferred mode of receiving, processing, and storing information represents a key dimension of this individuality. The three most widely recognized categories are visual, auditory, and kinesthetic learning styles: visual learners tend to process information most effectively through images, diagrams, and

written text; auditory learners absorb information primarily through verbal explanation, discussion, and sound; and kinesthetic learners engage most productively through physical activity, tactile experience, and hands-on practice (Rahmawati, H., 2022; Fleming & Mills, 1992). When learning methods are misaligned with a child's dominant learning style, the result is frequently frustration, disengagement, and diminished academic outcomes.

The phenomenon observed in Pamijahan Village, Kuningan, West Java, illustrates a broader challenge prevalent in rural Indonesian early childhood education: the persistent use of uniform, undifferentiated instructional methods that fail to accommodate the diversity of children's learning preferences. This misalignment has been empirically linked to reduced academic engagement and diminished learning outcomes across both cognitive and non-cognitive domains. Research by Rahmawati & Mubroji (2022) demonstrates that the identification and application of appropriate learning styles can contribute significantly to children's academic achievement, with some studies reporting improvements of up to 52% in learning outcomes when instruction is aligned with dominant learning styles.

Despite this evidence, the systematic implementation of learning style identification in early childhood education remains critically underexplored in rural Indonesian contexts, where limited infrastructure, under-resourced institutions, and inadequate teacher training compound the challenge (Nafi'ah, 2021). A notable research gap exists in the literature: while studies conducted in urban and semi-urban settings in Indonesia and internationally have documented the benefits of learning style-based instruction, empirical investigations specifically targeting rural early childhood populations where contextual constraints are most pronounced remain sparse. Furthermore, LeFever (1995) emphasizes that a personalized educational approach constitutes a fundamental recognition of each child's unique cognitive orientation, a principle rarely operationalized in the rural early childhood education contexts of developing countries.

The novelty of the present study lies in its contextualized examination of learning style identification and its effects on achievement among children in a rural Indonesian village setting, contributing empirical evidence that extends beyond urban-centric findings in the existing literature. The practical implication of this research is to provide educators and policymakers with context-sensitive strategies for improving the quality and inclusivity of early childhood education in underserved communities. Scientifically, this study contributes to the growing body of knowledge on differentiated early childhood instruction in low-resource settings.

This study addresses the issue of "The Importance of Identifying Early Childhood Learning Styles to Optimize Children's Achievement." The focus of this study is on the importance of identifying children's learning styles in optimizing learning achievement. It also attempts to answer questions about the variations in learning styles found among children in the village and their implications for their learning outcomes. This study involved nine children aged 5-6 years in the Pamijahan Village area, hoping to provide a concrete picture of the variations in learning styles and their implications for children's learning outcomes in the village. This study specifically limited its scope to nine early childhood children aged 5-6 years residing in Pamijahan Village. With this focused scope, it is hoped that the results will provide a more in-depth and contextual picture of the application of learning style identification in rural environments.

The primary objective of this study was to identify the learning styles of early childhood children in Pamijahan Village and analyze the impact of this identification on optimizing children's achievement. This research is crucial in the context of early childhood education. Understanding children's learning characteristics is key to creating an effective and enjoyable learning process. By identifying learning styles early, educators can adapt teaching methods accordingly. Furthermore, adapting learning based on learning styles also contributes to the development of children's psychosocial aspects, such as self-confidence and independence, which lay the foundation for learning at subsequent levels.

This research is also supported by the fact that many early childhood educators still experience difficulties in recognizing and appropriately implementing children's learning styles due to limited training and varied learning resources. Therefore, this research not only contributes to improving children's academic achievement but also to the overall quality of early childhood education. The benefits of this research are crucial for various parties involved in the early childhood education process, particularly in Pamijahan Village. For children, this research is expected to help them identify the learning style that best suits their character and needs. With this understanding, the learning process becomes more enjoyable and effective, allowing children's potential and academic achievement to develop optimally. Furthermore, this research provides teachers and educators with insights into recognizing differences in children's learning styles. With a better understanding, teachers can design and implement appropriate learning methods tailored to each child's individual needs.

This not only improves teaching effectiveness but also helps teachers guide children to achieve optimal learning outcomes. Parents benefit from this research because they gain a deeper understanding of their children's learning styles. This allows them to provide appropriate support at home, create a conducive learning environment, and actively participate in their children's educational development. Parental support that aligns with their children's learning styles will undoubtedly strengthen the learning process at school. This research also benefits schools and educational institutions in Pamijahan Village. The results can serve as a basis for schools to adjust their curriculum, facilities, and learning infrastructure to better suit the needs of children's learning styles. This will, in turn, improve the overall quality of education in schools.

This research also contributes to the development of educational science, particularly in the areas of learning styles and optimizing early childhood achievement. This research can serve as an important reference for future researchers who wish to conduct similar studies, particularly in rural areas with unique characteristics and challenges in education. Overall, the benefits gained from this research are expected to have a significant positive impact on improving the quality of learning and achievement of early childhood children in Pamijahan Village and the surrounding area.

Table 1. Literature Review

Author & Year	Research Title	Similarities	Differences
Izzati& Yulsyofriend (2020),	The Effect of Storytelling Method Using Hand Puppets on Early Childhood	Focus on early childhood development and learning processes	Emphasizes storytelling methods as a learning medium, indirectly

Author & Year	Research Title	Similarities	Differences
(Samarinda, 2025)	Cognitive Development	that support children's cognitive development	related to learning styles
Maclanil et al. (2023)	The Relationship Between Learning Styles, Motivation, and Learning Achievement in Children	Examines the relationship between learning styles and children's learning achievement and motivation	Emphasizes the importance of matching learning methods with learning styles to improve academic outcomes
Amal et al. (2023)	The Effect of Learning Styles on Early Childhood Language Ability	Focuses on the influence of learning styles on aspects of early childhood development	Emphasizes children's language ability as a learning outcome influenced by learning styles
Utami et al. (2024)	The Importance of Motivation in Improving Elementary School Students' Learning Outcomes	Emphasizes the role of learning motivation in improving learning outcomes	Focuses on intrinsic and extrinsic motivation in elementary school education

Source:Data Processed

These four studies emphasize the importance of learning styles and motivation in supporting cognitive development, language skills, and academic achievement in early childhood through elementary school. Each study focuses on a different aspect, ranging from storytelling methods, the relationship between learning styles and motivation and achievement, the influence of learning styles on language skills, and the role of learning motivation in general. Overall, adapting learning methods and motivation to suit children's learning styles is crucial for optimizing children's academic achievement.

This research is expected to contribute to the development of more effective learning strategies in early childhood education institutions and provide teachers and parents with an understanding of the importance of adapting learning approaches to suit individual children's needs. Therefore, identifying children's learning styles from an early age is crucial for optimizing academic achievement and supporting learning development that is tailored to each child's individual characteristics.

METHOD

This study used a qualitative approach with the aim of exploring and understanding in depth how identifying early childhood learning styles can help optimize their academic achievement. A qualitative approach was chosen because it allowed researchers to explore the experiences, perceptions, and practices of educators and parents in recognizing and adapting children's learning styles to their individual needs (Poth, 2016). This approach emphasizes understanding the context and meaning found in children's learning situations.

Research Design

This research employs a qualitative descriptive design, which is appropriate for capturing the naturalistic and contextual dimensions of early childhood learning style identification. Qualitative descriptive research prioritizes the accurate and comprehensive portrayal of phenomena as they occur in their natural setting, without experimental manipulation, making it well-suited to the objectives of this study (Creswell & Poth, 2016).

Research Location and Subjects

The research subjects were educators and early childhood education providers studying at a pre-school (PAUD) institution. Nine children aged 5–6 were purposively selected in the surrounding area of Pamijahan Village. Subjects were selected based on their active engagement in non-formal early childhood learning activities and the institution's specific focus on recognizing children's learning styles. The research was conducted in Pamijahan Village, Kuningan Regency, West Java, Indonesia, a rural community with limited access to formal early childhood education institutions and learning resources. In addition to the nine child participants, their respective parents (n = 9) and two local early childhood educators were included as key informants to provide triangulated perspectives on children's learning behaviors and educational support at home and in community settings.

Research Instruments

The primary research instruments were: (1) a structured observation checklist developed based on the VAK (Visual-Auditory-Kinesthetic) learning style framework (Fleming & Mills, 1992), used to record children's behavioral responses during learning activities; (2) semi-structured interview guides for educators and parents, focusing on observed learning preferences, instructional strategies employed, and challenges encountered; and (3) a documentation form for recording children's academic participation and learning outcomes. The researcher served as the primary instrument, consistent with the epistemological stance of qualitative inquiry (Creswell & Poth, 2016).

Data Collection Techniques

Data collection techniques were conducted through several methods: in-depth interviews with teachers and parents involved in the children's learning process, direct observation during the learning process to observe interactions and the application of learning style-based strategies, and documentation in the form of notes on learning activities and children's academic achievement. This combination of techniques aimed to obtain a holistic and valid picture of the learning style identification process.

Data Analysis Techniques

The data was analyzed using thematic analysis, which involves systematically coding data to identify key patterns and themes relevant to the research focus. The analysis steps included data collection, transcription, coding, grouping themes, and interpreting the results according to the research context. Specifically, thematic analysis was conducted following the six-phase framework proposed by Braun and Clarke (2006): familiarization with data, generating initial codes, searching for themes, reviewing themes, defining and naming themes, and producing the report. This structured analytical approach ensured rigor and systematic interpretation, providing a comprehensive understanding of the critical role of learning style identification in optimizing early childhood achievement.

RESULTS AND DISCUSSION

Research Results

The learning style identification process was conducted through direct observation and interviews with educators and parents. Observations showed that among the nine children, there were variations in dominant learning styles: four children tended to have a visual learning style, three children had an auditory learning style, and two children had a kinesthetic learning style. Children with a visual learning style more easily understand learning materials through pictures, colors, and other visual media. They showed high enthusiasm when presented with visual aids such as pictures and videos. Meanwhile, children with an auditory learning style were more responsive to verbal explanations and group discussions and were able to retain information well through stories and songs. Meanwhile, kinesthetic children demonstrated more optimal achievement when the learning process involved physical activity, play, or direct touch.

This study aimed to identify the learning styles of early childhood children and how these can optimize their learning achievement. Using a qualitative approach, this study involved nine children aged 5-6 years old who were purposively selected from their local community as a sample. Data collection methods were conducted through observation and interviews with educators and parents (Kinanti & others, 2024). Thematic analysis of the collected data yielded three overarching themes: (Theme 1) Variations in dominant learning styles and their behavioral manifestations; (Theme 2) The impact of learning style-aligned instruction on children’s motivation and achievement; and (Theme 3) Systemic barriers to the implementation of differentiated learning approaches in the rural community context. These themes are elaborated throughout the Results and Discussion sections below, supported by observational data and interview evidence. It is important to note that, given the small and purposive sample of nine children, findings should be interpreted as contextually specific rather than statistically generalizable.



Figure 1. Learning activities in Pamijahan Village, where educators assist early childhood children in play-based learning activities to identify each child's individual learning style.

Furthermore, it was found that children's achievement is influenced not only by learning style but also by learning motivation, parental support, and the teacher's teaching style. Some children struggle due to monotonous and lack of variety in learning methods, resulting in boredom and a lack of interest. The study also revealed that children whose learning was tailored to their individual learning styles showed increased motivation and active engagement during the learning process. Their academic achievement also improved significantly compared to before the learning method adjustments were made. Children

became more confident and displayed a positive attitude towards learning activities. According to Rahmawati & Muhroji (2022), the surrounding environment also plays a crucial role in supporting children's learning styles. An environment rich in visual, auditory, and kinesthetic stimulation can help children develop their learning potential optimally. Quality early childhood education must be able to create a learning environment that supports the development of children's various learning styles.

Interviews with parents related to this study revealed that they recognize the importance of their role in supporting their children's learning at home. Several parents stated that they strive to provide a comfortable and enjoyable learning environment to encourage their children to learn. One parent stated that they guide their children's learning slowly and without forcing them, but rather instill discipline in their children so they become responsible for their learning. Others regularly engage their children in discussions and stimulate their curiosity through questions and answers, resulting in more active and interested children learning. However, some parents admitted to facing obstacles such as environmental influences that encourage children to play more often, and limited parental knowledge about current learning methods. Nevertheless, they strive to be patient and continue to provide support so their children remain focused on learning (Rizkiyana & Kodri, 2023)

Representative accounts from parent interviews further illuminate these patterns. One mother of a child identified with a visual learning style noted that her child consistently requests pictures or visual demonstrations when receiving explanations, and comprehends information far more readily when it is presented visually rather than verbally. Similarly, the parent of a child exhibiting kinesthetic tendencies reported that learning becomes most productive when the child is permitted to touch objects or move freely during the activity, and that prolonged seated instruction frequently results in loss of attention.

These accounts corroborate the observational findings and align with the VAK learning style framework (Fleming & Mills, 1992), reinforcing the significance of learning style recognition in home learning environments. It should be acknowledged that in this study, learning style identification relied on naturalistic observation and parent/educator reports rather than validated psychometric instruments. As Coffield et al. (2004) caution, learning style theories vary considerably in their empirical rigor, and children's learning preferences may be fluid and context-dependent rather than fixed traits. This nuance differentiates the present findings from those of Rahmawati and Muhroji (2022), who employed structured assessments in formal PAUD institutions, and underscores the importance of context-sensitive interpretation in rural community settings.



Figure 2. Discussion between parents and educators in Pamijahan Village as part of a series of studies on identifying early childhood learning styles.

In addition to interviews with parents, educators also emphasized that recognizing children's learning styles is crucial in designing appropriate learning methods. Teachers at early childhood education institutions (PAUD) and kindergartens in Pamijahan Village reported using various media and approaches, such as pictures, stories, and physical activities, to adapt to children's visual, auditory, and kinesthetic learning styles. They also observed that children who received approaches tailored to their learning styles tended to grasp material more quickly and were more enthusiastic about learning. However, teachers also face challenges such as limited learning resources and limited time to provide individual attention to each child.

Therefore, teachers hope for parental support so that learning at home and school can run synergistically (Yenita & Syofriend, 2021). Overall, this research confirms that identifying early childhood learning styles is a crucial first step in optimizing their academic achievement. With an approach that suits each child's learning style and support from the surrounding environment, early childhood education can be more effective in developing children's potential holistically.

Discussion and Findings

Based on the research and interviews conducted in Pamijahan Village, it can be concluded that identifying early childhood learning styles plays a crucial role in optimizing children's academic achievement. Children with well-defined learning styles, whether visual, auditory, or kinesthetic, demonstrate a more positive response to the learning process. This aligns with literature findings that suggest that adapting learning methods to children's learning styles can improve learning effectiveness and academic outcomes.

Interviews with parents revealed that family support plays a significant role in creating a conducive learning environment. Parents who understand their children's learning styles are able to provide appropriate stimulation, such as providing appropriate learning media and actively assisting their children. However, some parents also face obstacles such as limited knowledge of effective learning methods and less supportive environmental influences. This highlights the need for increased outreach and training for parents so they can play a more optimal role in supporting their children's learning process.

Meanwhile, educators in Pamijahan Village strive to implement various learning methods tailored to children's learning styles. The use of visual, auditory, and kinesthetic media is a key strategy for reaching children's diverse learning styles. However, limited resources and time present challenges in providing individual attention to each child. Therefore, collaboration between teachers and parents is essential to ensure continuity of learning at school and at home, so that children's potential can develop to its full potential.

Overall, the results of this study confirm that identifying and understanding early childhood learning styles is a strategic step that must be integrated into the learning process. With the right approach, children not only understand the material more easily but also become more motivated and active in learning, underscoring the importance of parental and educator involvement in creating effective and enjoyable learning synergies for early childhood.

Learning styles are specific patterns of behavior in individuals receiving new information, developing new skills, and retaining that information during the learning process. This suggests that each child has a unique way of processing information, which must be understood so that learning can be tailored to their needs (Subini, 2011). Learning styles are the strategies students use to acquire and remember information, which significantly influences their interactions in the learning process. Therefore, teachers need to recognize children's learning styles to design effective learning (Retnowati & Nugraheni, 2024)

Identifying children's learning styles is a fundamental aspect of early childhood education. According to Rahmawati & Muhroji (2022), "Understanding learning styles allows educators to adapt appropriate and effective learning strategies for children." This is crucial for children to optimally absorb material according to their learning preferences. In early childhood education, understanding children's learning styles is a crucial aspect that can influence the success of the learning process and children's achievement. Recognizing learning styles such as visual, auditory, and kinesthetic in early childhood allows educators to design effective and enjoyable learning strategies, so that children can optimally absorb the material (Learning Styles et al., 2013). With an approach that suits learning styles, children not only passively receive material but also actively engage in the learning process.

A positive relationship between learning styles and children's achievement has also been found in research, which shows that visual, auditory, and kinesthetic learning styles have a significant influence on student learning outcomes. For example, learning achievement increases by 15% for visual learners, 11.6% for auditory learners, and 20% for kinesthetic learners. This confirms that understanding and applying appropriate learning styles can contribute to students' academic success (Djara & others, 2023).

Various Learning Styles in Children

Based on observations and interviews conducted with parents and educators in Pamijahan Village, it was found that early childhood children in this community exhibit a variety of learning style tendencies, which can be categorized into three main types:

Visual Learning Style

Some children find it easier to understand learning through pictures, colors, and props. They tend to focus when presented with visual media such as picture books, posters, or

coloring activities. Children with this learning style typically show high interest when teachers use the whiteboard, pictures, or videos as learning media. They also often remember information based on what they see in class or at home.

Auditory Learning Style

Some children are more responsive to verbal explanations, stories, or songs. They grasp material more quickly when teachers explain verbally or through group discussions. Children with this learning style also enjoy repeating information verbally, singing learning songs, and actively asking questions and responding directly to instructions. Field discussions have shown that children often remember lessons they hear more than they do what they see.

Kinesthetic Learning Style

Some people prefer learning through physical activity and hands-on practice. They are more enthusiastic when learning involves movement, games, or simple experiments. Children with this learning style tend to have difficulty sitting still for long periods of time and find it easier to grasp concepts through hands-on experiences such as role-playing, assembling objects, or engaging in fine and gross motor activities.Field analysis shows that each child has a unique learning style. Educators and parents in Pamijahan Village recognize the importance of recognizing the characteristics of early childhood learning styles so that the learning process can be tailored to each child's individual needs. By implementing an appropriate approach, children become more enthusiastic, understand learning more easily, and their academic performance improves.

According to research by (Rahmawati, H., 2022), early childhood learning styles can be grouped into three main types: visual, auditory, and kinesthetic. Children with a visual learning style tend to understand material more easily through visual means, such as reading or viewing pictures. Children with an auditory learning style absorb information more through listening, such as listening to teacher explanations or discussions. Meanwhile, children with a kinesthetic learning style learn more effectively through physical activities, such as playing or conducting experiments. Understanding these learning styles is crucial for optimizing the learning process and children's achievement.

Another study by Saputri et al. (2024) also shows that children's learning styles can vary and often combine these three styles. At SD N 1 Cempaga, for example, the majority of students exhibit a visual learning style, but there are also students with auditory and kinesthetic learning styles. This suggests that each child tends to have a unique way of absorbing information, and it is important for educators to recognize and understand each child's learning style. This way, the learning process can be tailored to optimally support children's cognitive development and academic achievement. Children who excel academically at an early age typically exhibit different learning style preferences, but generally combine visual, auditory, and kinesthetic learning styles. Therefore, varied learning methods tailored to children's learning styles can improve the effectiveness of their learning and academic achievement (Rahmawati & Muhroji, 2022).

Learning Strategies Based on Children's Learning Styles

Based on our direct observations and experiences in Pamijahan Village, we discovered that every child has a different learning style. Some prefer looking at pictures, others prefer

listening to stories, and still others can't sit still and prefer to learn while moving. From this, we've developed several strategies that have proven to be effective in practice.

Visual Children

Visual children's eyes usually light up during lessons when presented with picture books, colorful props, or posters in class. They understand better if the teacher frequently uses pictures, scribbles on the whiteboard, or short videos. While learning, these children also like to doodle or draw their own pictures to help them remember the lesson.

Auditory Children

Auditory children learn more quickly if the teacher frequently engages them in conversation, storytelling, or singing along. They usually enjoy question-and-answer sessions or small group discussions. Learning songs are also very effective in helping them remember the material. Sometimes, these children also like to repeat what they hear to make it stick in their heads.

Kinesthetic Children

Kinesthetic children can't sit still for long periods of time. Learning is most enjoyable when played with, hands-on practice, or small experiments. For example, learning numbers while jumping up and down, or recognizing shapes by touching and molding objects from plasticine. Teachers usually have to be prepared to provide more space for movement and physical activities to keep these children focused and from getting bored.

Combination and Adaptation

In the field, it's common to encounter children with a combination of learning styles. Therefore, teachers don't usually use just one method, but a combination. For example, when learning about animals, the teacher could start with a story (auditory), show pictures (visual), and then invite the child to imitate the animal's movements (kinesthetic). This way, all children can be actively involved according to their individual learning styles**.**

The most effective strategy is when teachers and parents are sensitive to their children's learning habits and interests. Once they know their child's learning style, whether visual, auditory, or kinesthetic, learning methods can be tailored to these characteristics. Furthermore, it's crucial to create a comfortable and enjoyable learning environment to motivate children to learn and optimize their achievement.

The importance of recognizing early childhood learning styles is fundamental to designing effective learning strategies. According to research by (Nafi'ah, 2021), teachers can modify learning media to make them more engaging for children with visual learning styles, provide more virtual information to children with auditory learning styles, and facilitate movement and modify games with lots of movement for children with kinesthetic learning styles. This approach aims to increase children's engagement and understanding of the material being taught.

Furthermore, Sutama et al. (2021) developed an e-module for early childhood learning strategies that is effective, efficient, and engaging. The e-module is designed to help educators understand and implement learning strategies that are tailored to children's needs, including their learning styles. The use of this e-module is expected to improve the quality of learning and facilitate educators in designing relevant and engaging activities for children.

Effective early childhood education must consider individual differences in children's learning styles. An approach tailored to children's needs and abilities can maximize their

cognitive development and learning achievement. The use of technology and adaptive learning approaches, including artificial intelligence (AI), can help identify children's learning styles and provide appropriate learning materials, thereby supporting the optimization of early childhood learning potential in a more personalized and effective manner (Sulisworo et al., 2018).

Herawati (2018) explains that early childhood education must be designed with attention to differences in learning styles to make learning more inclusive and effective, and support children's optimal development. By accurately identifying learning styles through observation and assessment, teachers can adapt more personalized and effective learning techniques, thereby optimally supporting children's holistic development. According to (Ramadhani, A. S., Azizah, W., Selpiyani, Y., 2022), appropriate family environmental stimulation can help optimize the developmental potential of early childhood, including in terms of learning styles, to best prepare them for a successful future.

Further research by Fitriani (2021) shows that implementing a learning model based on children's learning styles can improve learning effectiveness and academic achievement. This approach makes it easier for children to understand the material and increases their motivation to learn, which ultimately has a positive impact on their learning outcomes.

Learning Challenges Based on Children's Learning Styles

Based on data and conditions in Pamijahan Village, there are several key challenges faced in implementing learning that is appropriate for early childhood learning styles, namely visual, auditory, and kinesthetic.

Limited Facilities and Resources

Learning support facilities in Pamijahan Village are still very limited. The availability of educational aids, technology-based learning media, and adequate internet access is still suboptimal. This situation hinders the implementation of varied and interactive learning methods, especially for children with visual and kinesthetic learning styles who require visual stimulation and physical activity.

Limited Knowledge and Skills of Teachers and Parents

Teachers and parents have not fully mastered learning strategies that are appropriate to the characteristics of children's learning styles. Many teachers still use conventional methods and lack differentiation in learning. Meanwhile, parents often experience difficulties in supporting their children's learning at home, both due to time constraints and a lack of understanding of effective learning methods.

Unsupportive Learning Environment

The environment around children is less than conducive to optimal learning. Children tend to be more interested in outdoor play activities, making it difficult to maintain focus on learning, especially for children with a kinesthetic learning style that requires a lot of movement. Furthermore, environmental distractions, such as noise, also affect children's concentration while learning.

Challenges to learning based on children's learning styles in Pamijahan Village include limited resources and facilities, a lack of skills among teachers and parents in implementing appropriate learning methods, an unsupportive learning environment, and difficulties in implementing distance learning. Therefore, efforts are needed to increase the capacity of

teachers and parents through training, providing adequate learning resources, and developing creative and adaptive learning methods to ensure optimal learning.

Implementing learning strategies tailored to the learning styles of early childhood certainly presents many challenges for educators. According to research by Sutama et al., 2021, developing e-modules on effective learning strategies for early childhood requires a deep understanding of children's learning styles and the ability to adapt teaching materials to these learning styles. However, challenges arise when educators lack a sufficient understanding of children's learning styles, making it difficult to adapt appropriate learning methods. Furthermore, limited resources, such as time and appropriate teaching materials, also hinder the implementation of learning style-based strategies. This demonstrates that, while important, implementing learning style-based strategies in early childhood requires adequate preparation and support from various parties.

Furthermore, research by (Nafi'ah, 2021) highlights that another challenge in learning style-based learning is the difficulty in accurately identifying children's learning styles. Early childhood often exhibits varied learning preferences that can change over time. Without valid and reliable assessment tools, educators may struggle to determine a child's dominant learning style. Furthermore, the assumption that every child has a fixed learning style can limit more flexible and adaptive learning approaches. Therefore, it is crucial for educators to have a comprehensive understanding of the concept of learning styles and be prepared to face the challenges of implementing it in the classroom.

Efforts to Optimize Children's Achievement

Based on observations and interviews in Pamijahan Village, efforts to optimize children's learning achievement are carried out through several strategic steps tailored to each child's learning style. First, teachers and parents strive to identify their children's individual learning styles, whether they are predominantly visual, auditory, or kinesthetic. With this understanding, learning methods can be tailored to help children understand the material more easily and motivate them to lear. Furthermore, training for teachers and parents is a priority so they have the skills and knowledge to implement varied learning methods tailored to their children's needs. In the field, this training helps teachers develop creative approaches, while parents are encouraged to actively support their children's learning at home in a fun way that suits their learning styles.

Furthermore, the development of diverse learning media and tools is also a key focus. Given the limited facilities available at institutions in Pamijahan Village, teachers and parents utilize local materials to create simple teaching aids that support children's learning. Creating a conducive and enjoyable learning environment is also part of this effort. Teachers and parents collaborate to create a learning environment that is not monotonous by combining learning and play activities, so that children remain focused and enthusiastic about learning.

Finally, synergy between schools and families must also be considered. Good communication and coordination between teachers and parents allows for regular monitoring of children's development and more effective adjustments to learning strategies. With this holistic and integrated approach, it is hoped that children's learning achievement in Pamijahan Village will improve significantly, tailored to each child's potential and needs.

This effort demonstrates that understanding and appropriately applying children's learning styles is crucial for successful early childhood learning.

Efforts to optimize early childhood learning achievement can be achieved by identifying and adapting to each child's learning style. Research shows that high-achieving children generally have a tendency toward visual, auditory, and kinesthetic learning styles, although the proportions and preferences vary from child to child. By identifying the dominant learning style, educators and parents can provide appropriate learning media and methods, thereby making the learning process more effective and significantly improving children's learning outcomes (Budi, 2023; Kurniawan et al., 2022).

According to Lestari et al. (2020), efforts to optimize children's achievement can be achieved by identifying and adapting to their learning styles, such as visual, auditory, and kinesthetic. Teachers need to use a variety of learning methods to suit each student's needs, while parental support is also crucial to strengthening the learning process at home. Synergy between teachers and parents in understanding children's learning styles will help develop their potential and optimally improve their academic achievement (Susilowati & others, 2013).

In addition to learning style factors, early childhood achievement is also influenced by various other supporting factors, such as learning motivation, family support, the role of teachers, the peer environment, and genetics. Research has found that children's motivation and persistence, along with support from parents and teachers, play a significant role in encouraging children to continue achieving. Teachers are advised to combine various learning models and pay attention to children's individual needs to overcome potential learning obstacles (Rahmawati, H., 2022).

Thus, optimizing early childhood achievement does not depend on a single factor, but rather the result of synergy between identifying learning styles, implementing a variety of learning methods, and providing positive environmental support. Teachers and parents need to work together to create a conducive learning atmosphere, pay attention to the unique characteristics of each child, and provide consistent motivation, so that children's potential and achievements can develop optimally (Budi, 2023; Lefever, 1995)

CONCLUSION

The results of a study conducted on nine children aged 5-6 years old indicate that there is a diversity of dominant learning styles in each individual. Observation and interview data revealed that four children tended to have a visual learning style, three children tended to have an auditory learning style, and two children tended to have a kinesthetic learning style. Children with a visual learning style demonstrated better comprehension when using images and videos, children with an auditory learning style absorbed information more easily through stories and discussions, while children with a kinesthetic learning style responded more optimally to physical activity during the learning process. Adapting learning methods to each child's learning style was shown to significantly increase their motivation, participation, and academic achievement.

These limitations should be considered when interpreting the findings and when designing follow-up investigations. In terms of practical implications, the findings of this study offer direct guidance for early childhood educators, school administrators, and parents.

Educators are encouraged to incorporate systematic observation protocols for identifying children's dominant learning styles and to develop flexible, multimodal instructional repertoires that address visual, auditory, and kinesthetic preferences concurrently.

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