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The Influence of Environment on the Cognitive Development of Students at Mts XX Pebatae from the Perspective of Islamic Education

Pengaruh Lingkungan Terhadap Perkembangan Kognitif Peserta Didik Mts XX Pebatae Perspektif Pendidikan Islam

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Abtstract

The learning environment that includes family, school, and community is a determinant factor that significantly shapes the cognitive development of students. The main problem studied is how the three environmental dimensions integratively affect the cognitive trajectory of madrasah students in the context of community-based Islamic education, especially in MTs XX Pebatae. This study aims to analyze the influence of environmental determinants on the growth and cognitive development of MTs XX Pebatae students in the perspective of Islamic education. The method used is a qualitative approach with a field observation design through in-depth interviews with teachers and students as the main data source. The sampling technique used is purposive sampling, and data analysis is carried out through thematic analysis based on field data. The results of the study revealed that the three dimensions of the environment have a real and interrelated influence: a harmonious classroom climate encourages students' motivation and cognitive abilities, family emotional support plays an important role in shaping learning character, and the pesantren environment is proven to produce better discipline and learning quality than students who live at home. The conclusion of the study confirms that the optimization of cognitive development can only be achieved through functional

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synergy between family microsystems, educational institutions, and social communities. The implications of this research require a structured parent-school partnership program, continuous improvement of teacher professionalism, and the strengthening of character development programs based on Islamic values at MTs XX Pebatae in order to create a conducive and holistic learning ecosystem.

Keywords: *learning environment, cognitive development, Islamic education, students, MTs Pebatae.*

Abstrak

Lingkungan belajar yang meliputi keluarga, sekolah, dan masyarakat merupakan faktor determinan yang secara signifikan membentuk perkembangan kognitif peserta didik. Masalah utama yang dikaji adalah bagaimana ketiga dimensi lingkungan tersebut secara integratif memengaruhi trajektori kognitif siswa madrasah dalam konteks pendidikan Islam berbasis komunitas, khususnya di MTs XX Pebatae. Penelitian ini bertujuan menganalisis pengaruh determinan lingkungan terhadap pertumbuhan dan perkembangan kognitif peserta didik MTs XX Pebatae dalam perspektif pendidikan Islam. Metode yang digunakan adalah pendekatan kualitatif dengan desain observasi lapangan melalui wawancara mendalam (in-depth interview) terhadap guru dan peserta didik sebagai sumber data utama. Teknik sampling yang digunakan adalah purposive sampling, dan analisis data dilaksanakan melalui analisis tematik berbasis data lapangan. Hasil penelitian mengungkap bahwa ketiga dimensi lingkungan memiliki pengaruh yang nyata dan saling berkaitan: iklim kelas yang harmonis mendorong motivasi dan kemampuan kognitif siswa, dukungan emosional keluarga berperan penting dalam membentuk karakter belajar, dan lingkungan pesantren terbukti menghasilkan kedisiplinan serta kualitas belajar yang lebih baik dibandingkan siswa yang tinggal di rumah. Kesimpulan penelitian menegaskan bahwa optimalisasi perkembangan kognitif hanya dapat dicapai melalui sinergi fungsional antara mikrosistem keluarga, institusi pendidikan, dan komunitas sosial. Implikasi penelitian ini menuntut perlunya program kemitraan orang tua-sekolah yang terstruktur, peningkatan profesionalisme guru secara berkelanjutan, serta penguatan program pembinaan karakter berbasis nilai-nilai Islam di MTs XX Pebatae guna menciptakan ekosistem belajar yang kondusif dan holistik.

Kata-kata Kunci: lingkungan belajar, perkembangan kognitif, pendidikan Islam, peserta didik, MTs Pebatae

Introduction

Students' cognitive development is one of the main indicators of educational success, including the dimensions of thinking skills, memory, perception, creativity, and problem-solving (Fei, Jinghan, Meng, Xiaobo, & Dan, 2025; Ibrahim, 2020) However, students' cognitive achievement does not develop in a vacuum, it is significantly influenced by the quality of the environment that surrounds it, both family, school, and community (Nogueira & Nobre, 2021). In many Islamic institutions at the junior secondary level, including MTs XX Pebatae, the heterogeneity of family backgrounds and sociocultural conditions of students presents a real challenge: how these diverse environments shape or hinder students' cognitive growth in different ways. This phenomenon of environmental disparity is an urgent research issue to be studied in depth (Rakesh et al., 2025).

This phenomenon demands serious attention from educators and education policy makers. The researcher is of the view that the difference in the quality of environmental stimulation experienced by students is directly correlated with the cognitive development disparity observed in the classroom (Hendry, Gibson, Davies, & Gonzalez-gomez, 2023). Without an adequate understanding of the dynamics of environmental influences, it will be difficult for teachers to design and implement responsive and targeted learning (Lapidot-lefler, 2025). Therefore, a comprehensive and evidence-based study of the environmental relationship and student cognition at MTs XX Pebatae is an academic imperative that cannot be postponed (Nadya, Banu, & Sumintono, 2023).

A number of previous studies have examined the relationship between the environment and cognitive development. Jean Piaget (1952) laid the theoretical foundation that a child's cognitive development takes place gradually through active interaction between the individual and his environment (Winstanley, 2023). Wahyu and Fitriani (2021) found that the quality of stimulation in the learning environment has a significant correlation with the growth rate of adolescent intellectual capacity at the first level of secondary education (Yan & Li, 2023). However, these previous studies have not yet adopted a comprehensive

Islamic perspective as the main analytical framework, nor have they raised the context of community-based Islamic educational institutions such as MTs XX Pebatae which have their own sociocultural characteristics. It is this gap that drives the urgency of this research (Rance, Dowell, & Tomlin, 2023).

The novelty of this research lies in the incorporation of two integrative analytical frameworks: the perspective of contemporary cognitive development psychology and the Islamic perspective sourced from the Qur'an, Sunnah, and the authoritative literature of Muslim scholars and scholars. The Islamic perspective on human existence affirms that every individual is born in a state of *Fitrah*, that is, the purity of the pure unblemished origin and its cognitive potential shaped by its interaction with the environment in line with it while enriching the theories of Piaget and Vygotsky (Albarra, Nawawi, & Tasbih, 2025). The integration of these two perspectives provides a more holistic and relevant theoretical foundation for the context of Islamic education, as well as yielding insights that have not been widely explored in the Islamic education literature in Indonesia (Anwar, Waston, & Utami, 2024)

Referring to this exposure, this study focuses on the analysis of environmental influences that include the domestic realm, formal educational institutions, and sociocultural structures on the growth and cognitive development of MTs XX Pebatae students (Sultanova, 2019). Specifically, this study aims to: (1) identify environmental elements that are dominant factors in students' cognitive development; (2) analyze the dynamics of these influences through the integration of developmental psychology and Islamic perspectives; and (3) formulate practical implications for educators in designing responsive and implementive learning in the environment of MTs XX Pebatae (Abdul & Muhammad, 2023).

Research Method

This research is a qualitative research that is descriptive-analytical. The qualitative approach was chosen because this study aims to understand, interpret, and describe in depth the influence of environmental determinants on the

cognitive maturation of MTs XX Pebatae students through the perspective of Islamic education, not to measure or test hypotheses statistically (Rosyidin, 2023). The application of this paradigm facilitates researchers to achieve a deep understanding, in harmony with the context, and is comprehensive about the phenomenon being studied (Hasanah, Candraini, & Mujahidin, 2025).

This study uses a qualitative approach with a field observation design, where data is obtained directly through in-depth interview sessions with informants at MTs XX Pebatae. Field data collection is carried out by conducting a direct dialogue with the teacher council and students to obtain empirical data on the actual conditions of the learning environment. This field observation was chosen as the main strategy for data collection because this study focuses entirely on the contextual realities experienced directly by participants in the field (Muhajir et al., 2025). Meanwhile, field data collection was taken by conducting a direct dialogue with the teacher council and students of MTs XX Pebatae to obtain empirical data on the actual conditions of the learning environment (Isa & Hadijaya, 2024). This approach was chosen because this research is empirical-contextual, so it requires a deep understanding of the reality of the field obtained directly from the experiences and stories of the participants (Muafiah et al., 2022).

The participants of this study consisted of teachers who taught at MTs XX Pebatae and students representing two groups, namely students who lived with their families compared to those who lived in Islamic boarding schools. Research data sources are classified into two categories: (1) primary data sources, namely the results of in-depth interviews directly with teachers and students of MTs XX Pebatae as the main empirical data; and (2) supporting data sources, in the form of observational records of researchers while in the field that enrich and verify interview data (Muhajir et al., 2025). The determination of the sample in this study was carried out through the *purposive sampling*, namely the deliberate selection of participants based on the criteria of relevance and ability to provide representative information about the variables of the educational environment

and cognitive development within the framework of Islamic education (Muafiah et al., 2022).

The central instrument in this study is attached to the figure of the researcher himself, who functions as a planner, implementer, primary data collector, as well as a comprehensive analyst. In carrying out their role, the researcher is supported by interview guidelines (*Interview Guide*), as well as analytics records (*Analytic Memo*) to record findings and inter-concept relationships during the field interview process (Arif, Kartiko, Rusydi, Zamroni, & Sya, 2024). The data collection technique was carried out through in-depth interviews conducted directly with teachers and students of MTs XX Pebatae as the only data collection method in this study (Yana & Susanti, 2024).

The collected data was analyzed using thematic analysis which was carried out through four continuous stages: (1) data reduction filtered information from the interview results on aspects relevant to environmental determinants and cognitive maturation; (2) the data presentation stage is carried out by organizing the findings in a structured manner through narrative descriptions that are descriptive-analytical; (3) synthesis and inference to deduce patterns and interrelationships between variables based on field data obtained from informants; and (4) verification, checking the validity of findings through source triangulation. (Im, Pyo, Lee, Jung, & Ock, 2023). This research activity lasted for a period of three months, starting from February to April 2026, as detailed in Table 1 below.

Table 1. Research Implementation Schedule

Stages	Time	Activities	Output
I	February 2026	Preliminary study and preparation of research proposal	Research proposal

Stages	Time	Activities	Output
II	February – March 2026	Preparation of interview guidelines and determination of research participants	Interview guidelines and verified participant list
III	March 2026	Conduct in-depth interviews and thematic analysis of data	Transcripts and analysis matrix of interview data
IV	April 2026	Preparation of reports and finalization of research articles	Final scientific article

Results and Discussion

Results

Based on the data from interviews conducted directly with the principal, two teachers, students who live in the dormitory and, students who live at home. This study identifies three environmental pillars that significantly affect the cognitive development of MTs XX Pebatae students: Synergy between domestic ecosystems, educational institutions, and social environment is a mutually reinforcing foundation in building students' cognitive capacity. Based on the results of direct observation of the environment at MTs XX Pebatae, it was revealed that the students there were divided into two groups, namely students who lived in the dormitory and students who lived with their families at home. The difference in the background of the living environment has an influence on the learning process and cognitive development of students, so that there is a variation in cognitive development between them. (Obsevasi, March 13, 2026)

The family environment is the first and most fundamental microsystem. Based on the results of the observation conducted on Sunday, March 15, 2026, it was revealed that students who grow up in disciplined families tend to display the same discipline at school. Emotional support and motivation from parents proved

to be a significant balancing factor even though the socio-economic conditions of some families were still in the lower middle category. The school environment is a second pillar that is very determinant: as stated by Mr. Marzuki as the principal, pedagogical competence and the quality of teacher-student relationships significantly affect students' critical thinking skills, while a positive and harmonious classroom climate encourages learning motivation and cognitive ability development. The community environment, including peers and Pebatae's local cultural values that respect science and scholars, also provide positive social capital for the learning orientation of students. (Interview, March 15, 2026)

Table 2. Environmental Factors and Their Influence on the Cognitive Development of MTs Students

Family	Intellectual stimulation, parenting, socio-economic	Language skills, memory, logical thinking	Rahmadani & Nurjannah (2021); Sukmawati & Rahim (2022)
School	Quality of teachers, classroom climate, learning facilities	Critical thinking, creativity, problem-solving	Hidayat & Marlina (2022); Kurniawan & Pratiwi (2023)
Peers	Academic socialization, positive conformity	Learning motivation, achievement orientation	Pratama & Sari (2022)

Society & Culture	Local values, social capital, digital media	Concentration, the ability to think deeply	Wulandari & Aziz (2023); Nurhayati & Sulistyo (2023)
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The study also found a number of important findings that need to be considered. First, even though the family's socio-economic conditions are relatively low, strong parental emotional support has proven to be a significant balancing variable based on the teacher's narration in the interview. This indicates that economic factors are not a single determinant that is absolute. Second, based on the students' own admissions, uncontrolled use of social media interferes with the ability to concentrate and think deeply, so that technology that should be a learning tool can actually function as a cognitive inhibitor if not managed wisely. Third, the limitations of school physical facilities do not always correlate with low cognitive development, because teachers' creativity and pedagogical competence have been proven to be able to compensate for the deficit of these facilities as revealed by the informants. (Observation, March 17, 2026)

The results of the primary data excavation involving Mrs. Faridah as a teacher of MTs XX Pebatae, revealed that the learning environment conditions of students in general took place in a comfortable atmosphere. Although the facilities and physical environment of the school are relatively simple, these conditions are not a significant obstacle thanks to the strong synergy between educators and students. These findings show that the limitations of physical facilities can be compensated by the quality of the pedagogical relationship between teachers and students. (Interview, March 17, 2026)

Regarding the influence of the family environment, the resource person Mrs. Rita as a teacher at MTs XX Pebatae stated that the family ecosystem plays a crucial role in the process of internalizing the character of students. Students who

grow up in disciplined families tend to show the same disciplined attitude when in school. The influence of a poor friendship environment is also often evident in students who previously excelled but then experienced a decline in academic behavior. The most obvious difference can be seen in the comparison between students who live in Islamic boarding schools and students who live at home: Islamic boarding school students generally show better quality of learning, discipline, understanding of good manners, and obedience to worship. (Interview, March 20, 2026)

From the perspective of the students themselves, HSA (students who live at home) admits that learning is often unfocused and easily causes boredom because it is done alone. Meanwhile, AMA (Students who settle in the pesantren environment) stated that he felt greater benefits: a higher intensity of interaction with friends and a more conducive learning atmosphere. Overall, the results of this interview show that collaboration between schools, families, and social ecosystems plays a crucial role in realizing an effective and maximum learning climate. (Interview, March 23, 2026)

Discussion

The results of this study consistently confirm that the environment is a multidimensional and tiered determinant variable in influencing students' cognitive development (Rance et al., 2023). The family plays the role of the first foundation, the school as the main accelerator, and society as the context of macro development. The findings of interviews at MTs XX Pebatae show that although the physical facilities of the school are simple, a harmonious learning climate between teachers and students is able to create an atmosphere conducive to cognitive development. This proves that a good pedagogical relationship is an effective compensator for the limitations of physical facilities (Park, McCormick, & Park, 2025).

The Islamic perspective provides a normative dimension that enriches the analysis. The concept of fitrah in the Qur'an (QS. Ar-Rum: 30; 30) Allah SWT said:

فَأَقِمْ وَجْهَكَ لِلدِّينِ حَنِيفًا ۚ فِطْرَتَ اللَّهِ الَّتِي فَطَرَ النَّاسَ عَلَيْهَا ۚ لَا تَبْدِيلَ لِخَلْقِ اللَّهِ ۗ ذَٰلِكَ الدِّينُ الْقَيِّمُ
وَلَكِنَّ أَكْثَرَ النَّاسِ لَا يَعْلَمُونَ

Translate:

"So turn your face straight to the religion (Islam); according to the nature of Allah who has created man according to that nature. There is no change in God's creation. That is the right religion, but most people do not know."

The hadith of the Prophet PBUH regarding the role of parents in the formation of children's character affirms that the environment is not just an external (exogenous) variable, but a divine instrument in the development of human potential (Family & Volume, 2021). What was narrated by Imam Bukhari and Imam Muslim are:

كُلُّ مَوْلُودٍ يُرَدُّ عَلَى الْفِطْرَةِ، فَأَبَوَاهُ يُهَوِّدَانِهِ أَوْ يُنَصِّرَانِهِ أَوْ يُمَجِّسَانِهِ

Translate:

"Every child is born in a state of fitrah, so it is his parents who make him a Jew, a Christian, or a Magi." (HR. Imam Bukhari and Imam Muslim)

Al-Ghazali's thoughts in *Ihya' Ulumiddin* regarding the importance of synergy between physical, emotional, and spiritual aspects in education seems to be in line with the data found by researchers in the field, especially at MTs XX Pebatae (Amri, Nabila, Islam, Sultan, & Kasim, 2025). The results of this study provide support for the theory put forward by Piaget (1952) which emphasizes the active interaction of the individual with his environment as the main mechanism of knowledge construction (Stoltz, Weger, & Veiga, 2024). Vygotsky's scaffolding theory, which emphasizes the role of social mediators in maximizing proximal developmental zones (ZPDs), is particularly relevant to findings on the significance of teacher quality and classroom climate (Alghamdy, 2024).

The practical implications of these findings include three complementary domains of intervention. In the family realm, a structured parent-school partnership program is needed, including parenting training, periodic academic

consultations, and active involvement of parents in learning activities (Zhang, Ssewanyana, Martin, & Lye, 2021). In the school realm, the most important investment is to improve the quality of teachers through the development of continuous professionalism, improvement of the psychological climate of the classroom, and optimization of existing resources through creative approaches (Antonio, Moreno, Mart, & L, 2023). In the realm of values and character, moral and faith development programs integrated with cognitive development will produce student profiles that have intellectual distinction as well as nobility of manners, in line with the paradigm of comprehensive Islamic education (Budiyanti, Komariah, Hermawan, Hyangsewu, & Indonesia, 2024).

The study has a number of limitations that must be publicly disclosed. First, the number of interview participants is still limited so the generalizability of empirical findings needs to be strengthened through research with a larger sample (Size et al., 2021). Second, the data obtained is sourced from a limited number of informants, so the depth and diversity of perspectives need to be strengthened through research with a larger number of participants and diverse backgrounds. Third, the current dynamics of the post-pandemic digital environment that continue to evolve have not been fully accommodated in this study (Jogdand & Naqvi, 2025).

Conclusion

This study shows that the environment has a very significant impact on the growth and cognitive development of students at MTs XX Pebatae through the family, school, and community environment, where literature studies and field findings prove that a disciplined family environment is able to shape students' learning character, a friendship environment that is not conducive has an impact on a decrease in academic achievement, and students who settle in the Islamic boarding school environment have their own quality of learning, discipline, understanding of manners, and better obedience to worship; In addition, the Islamic perspective emphasizes that a conducive environment is an important means of developing the nature and cognitive potential of students so that the

optimization of cognitive development requires synergy between family, school, and community.

This research also contributes to the development of science by producing a contextual understanding based on field data on the dynamics of the learning environment in madrasas, as well as providing an evidence-based framework for evidence-based practical analysis and interventions for community-based Islamic educational institutions. Therefore, further research is recommended to expand the scope of interviews with a larger and diverse number of participants, examine the influence of the digital environment and social media on the cognitive development of madrasah students through more in-depth field observations, and conduct comparative studies between community-based MTs and state MTs to gain a more comprehensive understanding of environmental factors that affect cognitive development students.

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