



## The Concept of Learning in the Perspective of Early Theories of Human Development: a Historical and Psychopedagogical Review

Ruth Mayanti Sihombing<sup>1\*</sup>, Damai Devyana Lande Maure<sup>2</sup>, Filipus Panjaitan<sup>3</sup>  
Sekolah Tinggi Theologi Karisma

**Corresponding Author:** Ruth Mayanti Sihombing [ruthmayanti707@gmail.com](mailto:ruthmayanti707@gmail.com)

### ARTICLE INFO

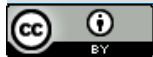
*Keywords:* Child Development, Preformationism, Ethology, Montessori, Psychopedagogy

*Received* : 15, March

*Revised* : 17, April

*Accepted* : 19, May

©2025 Sihombing, Maure, Panjaitan:  
This is an open-access article distributed under the terms of the [Creative Commons Atribusi 4.0 Internasional](https://creativecommons.org/licenses/by/4.0/).



### ABSTRACT

This study examines three foundational theories of child development - Preformationism, Ethology, and Montessori - through historical and psychopedagogical lenses. While Preformationism views children as miniature adults with predetermined development, Ethology emphasizes biological predispositions and critical learning periods. The Montessori approach advocates child-centered learning through structured exploration. Our literature review reveals these theories offer complementary perspectives, yet contemporary education often fails to integrate their synergistic insights. Particularly, modern pedagogy lacks comprehensive frameworks that combine biological predispositions (Ethology), environmental responsiveness (Montessori), and recognition of developmental stages - a gap this study addresses. The findings suggest an integrated approach could better support holistic child development by acknowledging both innate potentials and environmental influences in educational design.

## INTRODUCTION

In education, understanding theories of human development is crucial as it serves as the foundation for designing curricula, teaching methods, and learning strategies that align with students' needs and developmental stages. Every individual undergoes a complex process of development from childhood to adulthood, encompassing cognitive, social, emotional, and moral aspects. Therefore, the developmental theories proposed by Jean Piaget, Lev Vygotsky, and Erik Erikson are important references in educational practice.

Jean Piaget, in his theory of cognitive development, stated that children go through four distinct stages: sensorimotor, preoperational, concrete operational, and formal operational. Each stage represents changes in the way children think and understand their environment. Understanding these cognitive stages is essential for educators in selecting appropriate learning approaches to ensure effective learning. Ignoring these developmental stages can lead to a mismatch between the teaching materials and students' cognitive abilities.

On the other hand, Lev Vygotsky emphasized the crucial role of social and cultural interaction in the learning process. His concept of the Zone of Proximal Development (ZPD) provides a solid theoretical foundation for collaborative learning approaches, where teachers or more capable peers can assist students in reaching their maximum potential. The application of ZPD encourages scaffolded learning, which involves providing temporary support that is gradually removed as students become more independent in mastering certain skills.

Erik Erikson also made a significant contribution through his psychosocial development theory. He categorized human development into eight stages, each marked by a key psychological conflict that must be resolved. Understanding Erikson's stages is vital for educators to address students' emotional and social needs according to their age-related developmental phase. For example, during adolescence, students are in the stage of identity vs. role confusion, where the educational environment

plays a critical role in helping them develop a strong sense of self.

Thus, theories of human development not only serve as the basis of developmental psychology but also play a significant role in shaping education that is humanistic and focused on students' holistic development. Integrating this understanding into educational practice leads to a more effective, adaptive, and responsive learning process that meets children's needs.

The purpose of discussing learning concepts from the perspectives of Preformationism, Ethology, and Montessori is to explore various viewpoints on human development and learning, based on historical, biological, and pedagogical approaches. Preformationism views children as miniature adults, with innate traits and potentials already determined at birth, emphasizing that development is not significantly influenced by the environment or learning experiences. Ethology analyzes learning behavior as a result of evolutionary processes and biological adaptation, highlighting the importance of sensitive periods in development, during which specific experiences are essential for optimal behavioral development. Montessori offers an educational approach that emphasizes children's independence, learning through direct experience, and a structured environment aimed at supporting the natural development of the child through freedom within clear boundaries.

By understanding these three perspectives, we can see how our understanding of learning and human development has evolved over time, and develop more holistic and responsive educational approaches that align with students' developmental stages and individual characteristics. This understanding forms the basis for designing effective and appropriate learning strategies.

## **METHODS**

This study uses a qualitative approach with a descriptive type. Data were collected through a literature review, namely tracing and analyzing various sources such as books, scientific articles, and other relevant publications. (Syahrizal, 2023) The information obtained is systematically arranged to form a conceptual framework regarding the concept of learning based on early theories of human development, especially Preformationism, Ethology, and Montessori. This approach was chosen to describe facts and ideas in depth, without manipulating variables, in order to understand the phenomenon as a whole and contextually.

## **RESULTS AND DISCUSSION**

To present the concept of learning from the perspective of early human development theory, the author first conducts a study of expert opinions and previous research on the theories of Preformationism, Ethology, and the Montessori approach. Next, the author delves deeper into the key terms and educational implications of each theory, both from a historical, psychological, and pedagogical perspective. This study covers how each theory views children, the role of the environment, and the nature of human development. The author then describes the synthesis of the three theories to formulate a more comprehensive concept of learning, which places children as active subjects in the learning process, as well as its relevance to modern educational practices and child-centered learning strategies.

### ***Learning Concept***

Learning is a process that involves changes in the individual, both in cognitive, affective, and psychomotor aspects, which are obtained through experience and interaction with the environment. This process is not limited to the scope of formal education alone, but also occurs naturally in social, cultural, and daily life. (Deak1, 2022) The main characteristic of learning is the existence of permanent changes in the knowledge, skills, and attitudes of individuals. The success of this process is greatly influenced by factors such as curiosity, social support, and the application of learning methods that are appropriate to the needs of the individual. (Deak V., Micro Teaching-Theory and

Practice, 2024) Thus, learning is an integral part of the process of individual growth and adjustment to the dynamics of life that continues to develop.

According to Jean Piaget's theory, the learning process is a dynamic activity that involves the active involvement of individuals in building their knowledge structures through direct interaction with their environment. Piaget emphasized that learning is triggered by a misalignment between previous understanding and new information found, which causes individuals to have to adjust their mindset. (Arsyad, 2014) The adjustment occurs through two mental mechanisms, namely assimilation and accommodation, which allow individuals to change and integrate new information. Therefore, learning is not just about receiving knowledge, but is a process of transforming understanding that develops continuously.

### ***Early Theories of Human Development***

Human development in childhood has become an object of study for various theories that form the basis of approaches in education and psychology. Among the early theories that are quite influential are preformationism, ethology, and the Montessori approach. (D. Gunarsa, 2008) These three theories provide different perspectives on how children develop and learn in relation to innate factors, the environment, and direct experience.

### ***Preformationism***

Preformationism is an early view in the history of developmental thought that believes that children have brought their full physical and mental potential since the beginning of their lives. (Rahmania, 2023) From this perspective, children are not seen as individuals who experience a gradual development process, but only through a biological process of body size growth. This view ignores the importance of social interaction, learning experiences, and the role of the environment in shaping children's overall development.

According to Bee and Boyd (2012), preformationism is a theory that developed in the 17th century and states that humans are physically and psychologically complete from the beginning of life. In educational practice, this theory is reflected in the view that children do not need a developmental guidance process, but are simply given information like adults. This has the potential to ignore the individual needs of children, their mental readiness, and the growth and development process that should be considered in designing appropriate learning methods.

### ***Ethology***

Ethology is a branch of science that studies human and animal behavior by considering biological aspects and the environment in which they live. (Hidayat, (2024).) In the context of child development, ethology seeks to understand how certain behaviors emerge as a result of adaptation processes that take place from generation to generation. This science highlights the important role of genetic factors and early experiences in shaping behaviors that support individual success in their social environment, including in the learning process. (Suryana, Early Childhood Education: Stimulation & Aspects of Child Development, 2016) According to Santrock (2011) explains that ethology is the study of behavior from a biological and ecological perspective, which emphasizes the importance of heredity and adjustment to the environment. In the context of education, the ethological approach emphasizes that a strong emotional relationship between children and caregivers, especially during critical periods of development, is an important foundation for children's social and emotional growth (Rizki, 2024). Therefore, creating a stable, responsive, and loving learning environment is essential to support the optimal development of students.

### ***Montessori***

The Montessori approach is an educational model designed to support holistic child growth through child-centered learning. This method emphasizes the importance of learning autonomy, where students are given the freedom to choose activities that suit their interests and developmental stages in a structured but flexible learning environment. (Afifah, 2020) Curriculum In this approach, educators act as guides who create a supportive atmosphere for exploration, not as the main source of knowledge. The main focus of this system is to develop individuals who have a sense of responsibility, initiative, and the ability to learn independently in the long term. (Ningrum, 2022) Maria Montessori viewed children as individuals who are naturally motivated to learn through direct involvement with their environment. She criticized the conventional educational approach that treats children as passive objects in the learning process. (Tracey, (2001) According to her, meaningful learning can only occur if children are given the freedom to determine the activities they are interested in in an organized environment that supports the exploration process. In this system, teachers do not act as the main source of knowledge, but rather as companions and facilitators who understand the unique needs and characteristics of each child. (Saputra, 2021) Parents The main goal of Montessori education is to foster children's ability to think independently, be responsible for their choices, and have reflective abilities that develop over time.

### ***Psychopedagogical Review***

In general, psychopedagogy is a discipline that studies the interaction between psychological aspects and the educational or learning process. This approach emphasizes the importance of understanding students' psychological conditions such as emotions, motivation, interests, personality, and cognitive development in designing effective and human-oriented learning strategies (Nurachadijat, (2023).). Psychopedagogy not only focuses on delivering lesson materials, but also on how students experience, respond to, and interpret the learning process itself,

with the ultimate goal of forming individuals who are intellectually and emotionally whole. (Ningrum, 2022)

According to Jean Piaget, a developmental psychologist who explains that learning must be adjusted to the child's cognitive development stage. Piaget emphasized that the learning process will be more effective if the material and methods are adjusted to the child's thinking abilities according to their age.

### ***Psychopedagogical Perspective on Preformationism***

**Strength:** Preformationism emphasizes that all individual potentials and characteristics have existed since early life, in line with the view that genetic factors have an important role in child development. This view helps in understanding the importance of heredity in child development. Assuming that development is a process of development from an existing form, this theory offers a simple and deterministic model. This facilitates early understanding of human development before there is knowledge of complex biological processes. (Latipah, E, 2021).

**Weaknesses:** This theory does not consider the influence of the environment, learning experiences, and social interactions in child development. This contradicts the modern view that emphasizes the importance of interactions between innate and environmental factors (Rijkiyani, 2022). Discoveries in biology and embryology show that organisms develop through the process of cell differentiation and not from pre-existing miniature forms. This refutes the basic assumptions of preformationism. When applied in an educational context, this theory can lead to the view that a child's abilities are determined from birth, thus reducing efforts to develop potential through education and learning. This can hinder a pedagogical approach that is adaptive and responsive to individual needs. (Boiliu, (2021).

From a psychopedagogical perspective, preformationism theory has historical value in highlighting the role of innate factors in child development. However, its main weakness lies in ignoring the role of the environment and experience, as well as its inconsistency with modern scientific findings (Utomo, 2022).). Therefore, this theory is inadequate to be used as a basis for current educational practices, which emphasize more on the interaction between innate and environmental factors in supporting child development.

### ***Psychopedagogical Perspective on Ethology***

Ethology, as a discipline that studies the behavior of organisms in the context of their natural habitat, makes an important contribution to understanding the evolution of children's behavior. From a psychopedagogical perspective, the ethological approach emphasizes that human behavior, especially in childhood, is the result of a complex interaction between biological and environmental factors. This includes basic instincts, early attachments, and patterns of adjustment to environmental stimuli. (H, 2024).

Concepts such as imprinting and critical periods are essential to understanding how early experiences can significantly influence an individual's development. (Nuraeni, (2022).) In the context of education, an understanding of this natural behavior is essential to creating a supportive learning environment. A good and enjoyable learning environment can increase student motivation and engagement, and also develop critical and creative thinking skills. Learning in nature, for example, can encourage students to think creatively in solving problems and finding innovative solutions. In addition, the family and community environment also play an important role in shaping and changing children's behavior. The family environment is the main foundation in shaping a child's character, while the community environment has a great influence in instilling aesthetic and ethical values for character formation. (Tanama, 2022).

Therefore, the integration of ethology in psychopedagogy emphasizes the importance of a holistic approach in the learning process. This directs educational practices to understand students as individuals who have biological, emotional, and social needs that are interconnected and continue to develop in the context of a dynamic environment. (Subagia, (2021).

### ***Psychopedagogical Perspective on Montessori***

The Montessori method, designed by Maria Montessori, emphasizes the importance of freedom, exploration, and self-adjustment in the child's learning process. In this approach, children are given the freedom to choose activities that suit their interests and needs, so that they can learn independently and according to their respective developmental rhythms. (A. lujia, 2023) Freedom in the Montessori context does not mean limitless, but rather structured freedom in a well-prepared environment. The environment is designed to encourage exploration and independence, where children can interact with various learning materials that are appropriate to their developmental stage.

Exploration is a fundamental element in the Montessori approach. Children are encouraged to explore their environment, which contributes to the development of cognitive, motor, and social skills. Through the exploration process, children learn to understand the world around them and build knowledge based on direct experience. (Deak V., Learning Theory and Implementation in Learning, 2024) Adjustment is also a crucial aspect of the Montessori method. Children are taught to recognize and adapt to the environment and social situations around them. This supports the development of social and emotional skills, which are essential for success in community life. (Boiliu N. I., 2016) By combining freedom, exploration, and adjustment, the Montessori method offers a holistic approach to children's education. This approach emphasizes not only academic aspects, but also character development and life skills that are vital for children in facing future challenges. (Tafonao, 2022).

### ***History of Preformationism***

Preformationism theory, which developed from classical to medieval thought, proposed the view that child development is entirely determined by innate structures that are present from the beginning of life.

In the context of education, this theory encourages the use of one-way instructional methods and pays little attention to individual developmental differences. (Salkend, 2024) From a psychopedagogical perspective, this view ignores the importance of understanding children as individuals who develop gradually. (Salkend, 2024) Although this theory has now been abandoned, its influence can still be seen in educational practices that emphasize uniform learning outcomes, without considering the developmental readiness of students.

### ***Development of Ethology***

Ethology, which developed from Darwin's theory of evolution and was expanded by scientists such as Lorenz and Tinbergen, emphasizes the role of innate behavior and adaptive responses to the environment. In the context of learning, ethology introduced the concept that there are critical periods in development where interaction with the environment is very important. Imprinting theory suggests that early experiences influence learning behavior in the long term. (s,PD, 2018) From a psychopedagogical perspective, this theory reminds us of the importance of aligning biological readiness and social context in learning planning, especially in childhood. (Deak V., 2024) After discussing ethology, we can see a change in the view of education with the Montessori approach, which emphasizes the active role of children in their learning process. (Imaduddin, 2022).

### ***History of Montessori***

The Montessori approach introduces a new paradigm in child education by paying primary attention to the active role of children in directing their learning process. Maria Montessori places the learning environment as the main means to develop children's potential optimally. (Magini, 2013) Through the use of learning aids and structured spatial arrangements, Montessori emphasizes individualization and

responsible freedom in learning. (Guntur Mukti, 2020)  
From a psychopedagogical perspective, this approach emphasizes the importance of adapting to the stages of child development as well as direct experience in shaping their understanding of the world. The great impact left by this approach is seen in the modern education system that focuses on children, which emphasizes freedom of learning and respects individual differences. (Magini, 2013)

The three theories, although emerging from different scientific backgrounds and eras, complement each other in formulating the concept of learning. Preformationism, although deterministic, emphasizes the importance of paying attention to the child's innate readiness. Ethology adds biological dimensions and dynamic environmental interactions, while Montessori emphasizes the importance of children's potential in managing the learning process independently in a supportive environment. In a contemporary psychopedagogical perspective, the combination of these three approaches can enrich the design of learning that places children as active subjects, learning in an integrated social, biological, and emotional context. (Fadly, (2024).)

#### ***Implications of Human Development Theories in Educational Practice Application of Preformationism in Education***

Core view: Children are seen as miniature adults who are already “finished” since birth. (Bee, 2012).

Implications:

1. Children are considered to have complete learning abilities from the start.
2. Education is seen as a process of direct knowledge transfer, without considering developmental stages.
3. There is no curriculum adaptation based on age or psychological stages. (Ahmad Dhomiri, 2023).

Negative impacts:

1. Ignoring children's developmental needs.
2. Not paying attention to individual differences between children.
3. Potential to create age-inappropriate learning pressures.

#### ***Application of Ethology in Education***

Core view: Children's behavior is formed from biological inheritance and environmental influences, especially during critical periods of development. (Stantrock, 2011)

Implications:

1. The importance of a secure emotional bond between teacher and student (similar to a child and caregiver).
2. Emphasis on sensitive periods in the learning process.
3. A safe, responsive, and loving environment is essential for child development. (Napitupulu, 2022).

#### ***Application of Montessori in Education***

Core view: Children are active learners who develop through exploration and direct experience. (Lillard, 2005).

Implications:

1. The learning environment is designed with materials that are appropriate to the child's developmental stage. (Tatang, 2022)
2. Children are given the freedom to choose activities, but within limits and responsibilities.
3. Teachers act as facilitators who support children's learning.

## CONCLUSION

From the discussion that has been done, it can be concluded that the study of early theories of human development such as Preformationism, Ethology, and the Montessori approach provides an important foundation for the development of educational practices that are oriented towards learners. Although Preformationism is more historical and limited in explaining the role of the environment, its understanding is still useful as a starting point in understanding views on human nature. Ethology, with its emphasis on the balance between biological and environmental factors, and Montessori who emphasizes the independence and exploration of children, offer a more relevant perspective for the development of today's learning methods. The integration of these three approaches not only enriches the understanding of the dynamics of child development, but also encourages the application of adaptive, contextual, and child-centered learning models. Therefore, these theories can be used as a reference in designing educational strategies that not only support cognitive growth, but also the overall social and emotional development of children.

## REFERENCES

- Afifah, D. N. (2020). Membedah Pemikiran Maria Montessori Pada Pendidikan Anak Usia Dini. *Pedagogi: Jurnal Anak Usia Dini dan Pendidikan Anak Usia Dini*, 57-68.
- Ahmad Dhomiri, J. J. (2023). Konsep Dasar dan Peranana serta Fungsi Kurikulum dalam Pendidikan. *Khatulistiwa: Jurnal Pendidikan dan Sosial Humaniora*, 118-128.
- Arsyad, M. (2014). *TEORO BELAJAR DAN PEMBELAJARAN*.
- Bee, H. (2012). *The Developing Child*.
- Boiliu, E. R. ((2021). Pendidikan Agama Kristen dalam Perspektif Teori Perkembangan Iman James W. Fowler. *Jurnal Teologi Dan Pendidikan Agama Kristen*.
- Boiliu, N. I. (2016). Misi Pendidikan Agama Kristen Dan Problem Moralitas Anak.
- D.Gunarsa, S. (2008). *Dasar dan Teori Perkembangan Anak*.
- Deak, V. (2024). *Micro Teaching-Teori Dan Praktek*. Deak, V. (2024). *Teori Belajar Dan Penerapan Dalam Pembelajaran*.
- Deak, V. (2024). *Studi Pengembangan Konseling Kristen Dalam Memengaruhi Penerimaan Diri. teologi dan pendidikan agama kristen*, 175-88.
- Deak1, V. (2022). *Implementasi Pembelajaran Kampus Mandiri Dalam Peningkatan Mutu Perguruan Tinggi*. *FJMR*.
- Eliyyil Akbar, M. (2020). *Metode Belajar Anak Usia Dini*. Jakarta: Prenada Media Group.
- Fadly, D. ((2024). Tantangan bagi perkembangan psikososial anak dan remaja di era pendidikan modern: Studi literatur *Journal of Sustainable Innovation on Education, Mathematics and Natural Sciences*, 3(2), 66-75.
- Golden Age. *Jurnal Basicedu*, 4905–4912. Rizki, N. j. (2024). Penerapan Teori Perkembangan Sosial dan Kepribadian Erikson Dalam Pendidikan: Pendekatan Psikososial Untuk Optimalisasi Pembelajaran. *Epistemic*:
- Guntur Mukti, S. (2020). Peran dan Fungsi Orang Tua Kristen Dalam Pembentukan Iman Anak Guntur. *of industrial engineering & management*, 134-39.
- H, H. (2024). *Teori Perkembangan Psikoanalisa, Kognitif, Behaviorisme, Sosial dan Ekologis*. Pendidikan Tembusai, 48912-48916.
- Hadi Rohyana, W. A. (2024). *Perkembangan peserta didik*.
- Hidayat, H. M. (2024). *Teori Perkembangan Psikoanalisa, Kognitif, Behaviorisme, Sosial, Etologis, dan Ekologis*. *Jurnal Pendidikan Tambusai*, 48912–48916.
- Imaduddin, I. (2022). *Konsep Pendidikan Agama Pada anak Usia Dini (dalam tinjauan psiko- pedagogois. Pendidikan dan Pemikiran*, 97-127.
- Jurnal Ilmiah Pendidikan*, 462–481. Rusdiana. (2014). *KONSEP INOVASI PENDIDIKAN*.
- Latipah, E, N. (2021). *Faktor Hereditas dan Lingkungan dalam Membentuk Karakter. pendidikan karakter*.
- Lillard, A. (2005). *Montessori: The Science Behind Genius*. new york.
- lujia, L. L. (2023). *Tinjauan Kritis Model Pembelajaran Montessori Dalam Pengembangan Kemandirian Anak*. *Jurnal Dunia Anak Usia Dini*.
- Magini, A. (2013). *Sejarah Pendekatan Montessori*.
- Napitupulu, T. (2022). *Peran Pendidikan Moral Remaja. OF MULTIDISCIPLINARY RESEARCH*, 627-40.
- Ningrum, A. S. (2022). *Pengembangan perangkat pembelajaran kurikulum merdeka belajar (metode belajar)*. *Prosiding Pendidikan Dasar*, 1(1), 166-177.
- Nurachadijat, K. &. ((2023). *Peran Lembaga Pendidikan Anak Usia Dini dalam Implementasi Kurikulum dan Metode Belajar pada Anak Usia Dini*. *Jurnal Inovasi, Evaluasi Dan Pengembangan Pembelajaran (JIEPP)*, 3(2) , 57-66.