



## The Application of Playing in Early Childhood Education Based on Piaget's Way of Thinking

Yulia Mauluddia<sup>1\*</sup>, M. Solehuddin<sup>2</sup>

<sup>1,2</sup> Universitas Pendidikan Indonesia, Indonesia  
<sup>\*</sup>[mauluddia14@upi.edu](mailto:mauluddia14@upi.edu)

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### Abstract

Childhood is identical with playing, and children are also said to be *Homo Ludens* or creatures of play. The Indonesian government is promoting criteria emphasizing play as a learning process. In addition, an emancipated curriculum means that children are given the opportunity for freedom of choice and activities so that students can build their knowledge. This policy contributes to Piaget's concept of thinking, which sees how children learn by constructing their knowledge. This study looks at the application of play in early childhood education based on Piaget's way of thinking. This study uses a systematic literature review research method. The results of this study discuss how Piaget views the concept of play in early childhood. The update of this article from the previous article is that it will explain early childhood play activities more precisely according to Piaget's views. Piaget asserts that knowledge development occurs through imagination in new experiences, which actively builds and modifies prior knowledge, and play is the primary medium in which this process occurs. The results of this paper are useful for educators and parents who know better how play can provide an unconscious learning process in children.

## INTRODUCTION

Children aged 0-8 years experience an important phase in their development, where they have a great opportunity to absorb various actions and information (Halimatussholikhah & Jauhari, 2021; Retnaningsih & Rosa, 2021; Tanjung, 2020). During this phase, children experience rapid growth and development that plays a key role in shaping their habits that will last well into the future (Aulinda, 2020; Nuraeni & Lubis, 2022; Ulfah, 2020). As a potential individual, every child has a variety of unique natural potentials, which can differ from one another (Mustaghfiroh, 2020; Rijkiyani et al., 2022; Sidiq & Muqowim, 2020). Therefore, it is necessary to optimize children's potential by providing stimulation and meaningful and fun experiences to help them overcome future challenges (Hasan et al., 2023; Pandia et al., 2022; Windayani, 2020).

In providing stimulation, meaningful and fun play experiences can be delivered through play activities (Budiwaluyo & Muhid, 2021; Permadi & Dewi, 2022; Udjir & Watini, 2022). Children who are naturally *homo ludens* or creatures of play gain maximum benefits through play activities (Matulesy et al., 2022; Munifa, 2016; Pangestu et al., 2021). Early childhood characteristics include liveliness and a tendency to enjoy playing, where play becomes one of the typical expressions of human nature in this phase of development (Cahyaningtyas, 2020; Fitria, 2021; Husnul & Marilang, 2021). In this situation, a very important role in supporting children's growth and development can be found in play activity (Khaira et al., 2022; Setyani et al., 2023; Vidiyanti et al., 2023).

Creating a learning environment that combines fun and learning can make children active through questions and answers that arise during the play process (Kim & Bacos, 2023; Nainggolan & Daeli, 2021; Septarini, 2021). Play is not just for children's enjoyment. It is also an effective way of providing real learning experiences for them (Maryam, 2019; Oktaria & Putra, 2020; Yunarti et al., 2023). Therefore, concrete activities and play are the most effective learning approaches because play at this stage of development is creative and fun (Fadlillah, 2017; Harahap, 2022; Lestari, 2020).

Constructivism theory, as a major approach in education and learning, emphasizes the process by which individuals construct knowledge and concepts through interaction with their environment and experiences (Mastiyah, 2023; Nainggolan & Daeli, 2021; Setiyaningsih & Subrata, 2023). The constructive learning approach, which is cognitively centred on discovery, provides space for students to choose their activities (Abdiyah & Subiyantoro, 2021; Kelana & Wardani, 2021; Khodijah, 2014; Saputro & Pakpahan, 2021). Piaget stated that individual development comes from within, focusing on people's ability to connect their experiences and ideas to create meaning (Agustyaningrum et al., 2022; Choiriyah, 2023; Wardani, 2022).

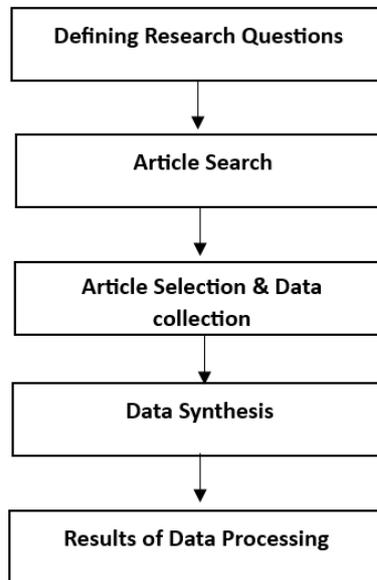
Piaget also saw the way children learn by building their knowledge and the importance of play as a vehicle for children in learning because playing can also cause pleasure or satisfaction for themselves (Giamulia & Ester, 2020; Lestari, 2020; Yunaini & Winingsih, 2022). Piaget's theoretical thinking certainly contributes greatly to early childhood education (Fadlillah, 2020; Paujiah et al., 2022; Rahmawati, 2022). It can be seen from the many studies that have been conducted, such as several studies on basic concepts, analysis of Jean Piaget's cognitive development theory, differentiating Jean Piaget's learning psychology, implications and implementation of early childhood learning (Anditiasari & Dewi, 2021; Istiqomah & Maemonah, 2021; Khotimah & Agustini, 2023; Kurniawan & Rahman, 2019; Nainggolan & Daeli, 2021). Based on this, previous research revealed the concept of Piaget's thinking and implementation in PAUD learning. So, this study wants to discuss, more specifically, early childhood play activities according to Piaget's view. Surely, the results of this writing will be useful for educators and parents who are more familiar with how play can provide an unconscious learning process for children. Moreover, currently, the Indonesian government is promoting the Paud curriculum, namely the Merdeka curriculum, which strengthens play activities as a learning process that provides opportunities for children to choose and carry out activities so that students can build their knowledge, which of course, this article will be one of the references for an educator in implementing the curriculum.

Thus, based on the above background, the author is interested in looking at the application of play in early childhood education based on Piaget's way of thinking. In this article there will be several things that will be discussed, namely the meaning of play in Piaget's thinking, the learning process in play activities according to Piaget, the role of the teacher according to Piaget's theory when children play, the application of play while learning using Piaget's thinking, the benefits of playing while learning according to Piaget's constructive theory.

## **METHODS**

The method used in writing this article is a Systematic Literature Review. According to Triandini et al. (2019), Systematic Literature Review is a term used to refer to certain research or research methodologies and developments carried out to collect and evaluate research related to the focus of a particular topic.

Based on Piaget's way of thinking, the research question is how to apply play in early childhood education. The Systematic Literature Review (SLR) research method was deemed applicable as it is a comprehensive, unbiased and transparent method of analyzing existing literature to advance knowledge related to a specific topic focus. The following is a chart of the steps of the research conducted:



**Figure 1.** Research Step

The process stages were carried out using software assistance from Google Scholar, Researchgate, ScienceDirect, and Zotero. The software is commonly used in qualitative research, especially those using the systematic literature review method. Google Scholar is used to find reference sources from trusted sites. Zotero is used to manage references and help write citations and bibliography.

Search strategy, the data search strategy in this research is developed from identifying key concepts related to the research questions. The search was conducted using google scholar, researchgate and sciencedirect. The keywords used during the search included piaget's theory, play, and its synonyms. At the beginning of the search, we looked at google scholar search results, then switched our focus to article titles that discussed piaget's theory of play and related terms, and then reviewed the abstracts of all articles that had been selected. This was done to check their relevance to this research.

Inclusion and exclusion criteria, inclusion criteria in the systematic literature review study, namely, the literature relevant to the research question. This study is limited to english and indonesian studies published in 2015-2023. Time restriction is done so that the novelty of the research results is still relevant to current conditions. Articles that did not discuss play according to piaget's theoretical thinking in early childhood as the central issue of investigation were discarded.

Data quality assessment, there are three assessment criteria: the article has a clear methodology; the article presents and discusses play according to piaget's theoretical thinking in the scope of early childhood education; the study results can be considered.

Study selection and data collection: at the beginning of the search using google scholar, research gate, and sciencedirect, the researchers got 55 pieces of literature and then

did the selection process based on the relationship between the title and the research results. Then, it was reduced to 30 after the abstract reading process. After that, it was selected based on articles from sinta 1-5 journals and indexed by scopus q1-q5, reducing the number of articles to 15 relevant articles. This synthesis is a summary of the findings from the relevant articles and an explanation of the relationship between these findings and the research topic.

## RESULTS AND DISCUSSION

### A. Result

Much research uses Piaget's theory to apply learning in early childhood. In 2015-2023, 13 articles match the criteria set for this research. The synthesis process to find research answers is as follows: 1) conducting an overview based on concepts from relevant articles; 2) the overview results are arranged into important findings; 3) classifying findings; 4) synthesis categories. After that, the form of play application in early childhood learning was found according to Piaget's way of thinking. Here, the author presents the findings and discussion in detail.

**Table 1.**  
**Result of Systematic Literature Review**

No	Author	Aim	Research Result
1	Gunanto, S. G. (2021)	Studying a mechanism in a game and trying to explain the findings about the game as an independent learning media.	The results show that games can be a formula for creating game-based learning that can display the advantages of games and reduce boredom in the learning process
2	Windayani, N. L. I. (2020)	To find out about constructivist learning in Bintang Hati Kindergarten.	The research results on the learning process at Bintang Hati Kindergarten, which uses a constructivist approach, freeing children to explore understanding of the events found.
3	Lestari, L. D. (2020)	To find out the importance of educating problem-solving in children through play	The concept of the importance of play in kindergarten which aims to create a learning environment that allows children to learn while playing and play while learning effectively
4	Taylor, M. E., & Boyer, W. (2020)	To explore the definition of play-based learning (PBL), theoretical frameworks and historical research that has shaped PBL, different types of play, and benefits and ways educators can facilitate, support, assess, and use technology to enhance PBL.	Understanding and practising PBL is a continuous learning process for educators as they learn about children and their learning needs and interests. PBL can support the active acquisition of each child's new learning interests and solution-focused exploration of their learning needs.

5	Hayes, C., & Graham, Y. (2020)	The purpose of this paper is to explore the notion that social constructionist approaches to learning	Students can recognize that the approach "wakes up" their capacity to think, engage, and trigger deeper-than-surface approaches to learning and the value of epistemic cognition. inherent to this process
6	Ethridge, E. A., Malek-Lasater, A. D., & Kwon, K. A. (2022)	To find out the challenges and barriers in teachers' efforts to encourage play-based learning	The findings revealed two broad themes relating to the challenges and barriers in teachers' efforts to encourage learning play-based through a virtual format
7	Kim, S. J., & Bacos, C. A. (2020)	For introduce Wearable Story is an interactive storytelling jacket designed for young children to facilitate their their story-listening experience while learning through play	The results showed many benefits of using Wearable Story, including support for parents by facilitating and tracking their children's interests and engagement with stories.
8	Yuhatriati Yuhatriati, & A. Yuriansa. (2018)	To develop a pattern play model for five to six-year-olds	The findings of this study show that pattern play models for learners aged five to six years old are shape, colour patterns, sizes and numbers.
9	Abdul Kholiq (2020)	To examine Piaget's cognitive theory of early childhood readiness for primary school.	The results were that the instrument developed was effective enough to test early childhood cognitive readiness for the entrance examination. Primary school.
10	Hanita, H., Suryono, Y., & Fauziah, P. Y. (2023)	Examining in depth how the implementation of project learning in education, especially in early childhood education.	The implementation of project learning in early childhood varies. But still though planning, implementation and evaluation
11	Sobiruddin, D., Dwirahayu, G., & Kustiawati, D. (2019)	Aims to train RA teachers to 1) utilize interactive projector-based ICT learning media in learning, 2) develop interactive projector-based ICT media for early childhood, and 3) provide an overview of RA student activities in learning using interactive projector-based ICT media.	The results showed that 1) an interactive learning application for early childhood using interactive projector-based ICT media was developed, 2) The process of thematic learning in RA using interactive projector-based ICT media is very enjoyable; this is indicated by the enthusiasm of students in following the lesson,

			and there is also an increase in learning activities of RA students in Pandeglang Regency. 3) Teachers responded positively to using interactive projectors in thematic learning in RA class.
12	Harjanty, R., & Muzdalifah, F. (2022)	The purpose of this research is to develop early childhood cooperation by implementing STEAM project-based learning (PjBL).	The results showed that operation between children improved significantly in cycles 1 to 3 after implementing STEAM PjBL.
13	Anidar, J. (2017).	To examine the differences in cognitive learning theories, namely Jean Piaget's Cognitive Development Theory, Vygotsky's Cognitive Development Theory, Lewin's Cognitive Theory (field theory) and Jerome Bruner's Cognitive Theory.	According to Jean Peaget's cognitive learning theory, all children generally develop similarly. Vygotsky states that cognitive abilities come from social and cultural relationships. According to Jerome Brunner, learning should be able to create situations so that individuals can learn from themselves through experience and experimentation.
14	Nugroho, P. (2015).	To explain the theory of Cognitivism, which can improve the quality of learning, especially in learning Islamic Religious Education in early childhood.	In the learning process, some figures have their arguments. According to Jerome Bruner, the learning process is more determined by how the teacher can organize learning according to the student's learning styles. According to Ausubel, what students learn should be "meaningful".(meaningful). According to Piaget, every child develops the ability thinking according to organized stages.
15	Nurtaniawati, N. (2017).	Discuss the role of teachers and learning media in stimulating cognitive development in early childhood and the importance of teachers and media in stimulating cognitive development. Stimulate cognitive development in early childhood.	Teachers have an important role in the process of cognitive stimulation of children, starting from planning implementation and assessment to achieve learning objectives.

Based on the results of 15 articles that have been collected, there are about the meaning of play, the process of thinking and learning of children, the role of teachers, the application of play, and the benefits of playing while learning. All of these discussions are based on Piaget's way of thinking. That will also be the discussion in this article.

## **B. Discussion**

### **The Meaning of Play in Piaget's Thought**

Early childhood is *homo ludens* or creatures of play, so the game is the world for children; through play activities, indirectly, children do the learning process. Cognitive development theory states that children play an active role in their development and actively build their knowledge when interacting with the environment. Play and activities in the child's immediate environment, especially close to nature, should be used to build early childhood experiences (Nurtaniawati, 2017). Children can engage in various activities while playing, including investigating, finding and engaging objects, dissecting and closing things, and investigating or exploring the environment. Children can learn from their experiences and understand what they find while playing. Meanwhile, Piaget (Nugroho, 2015) explained that to improve learning outcomes, taught through games will be more interesting and fun for students.

Piaget suggested that play allows children to adjust reality to the real world (Lestari, 2020). Learning in early childhood is effective through real-world activities and a play-based approach because children's play is an imaginative and fun activity (Lestari, 2020). Children are the centre of learning activities in implementing the constructivist learning process. According to Piaget, human intelligence develops through the interaction of thoughts and actions (Hayes & Graham, 2019). It can be interpreted that children's intelligence will be influenced by their active involvement, which includes their thinking process and real actions. Piaget also viewed it as a way for children to learn independently through interaction and their environment (Kim & Bacos, 2023). Piaget also said that knowledge will develop when faced with new experiences that build and change prior knowledge (Hanita et al., 2023; Harjanty & Muzdalifah, 2022).

### **Learning Process in Play Activities According to Piaget's Theory**

Piaget believed that action is the source of knowledge, and the extent to which children actively manipulate and interact with their environment affects their cognitive development. A child must respond cognitively (mentally) to difficulties, experiences, new phenomena and problems. To do this, each child must develop more general or detailed schemes of thought or needs to modify, respond to and interpret these experiences. That way, children's knowledge will be formed and always growing (Nugroho, 2015). According to (Anidar, 2017; Nugroho, 2015), the following cognitive processes include: 1) A schema is a collection of concepts that an individual uses in his mind to organize and interpret information when interacting with the environment. Piaget states that two processes are responsible for how children use and adapt schemas: assimilation and accommodation. 2) Assimilation is the process of incorporating new information or experiences into pre-existing schemas; 3) Accommodation is the process of forming new schemas with their new information and experiences; 4) Equilibration is the balance between assimilation and accommodation so that a person can unite outside experiences with their inner structure (schema).

Piaget believed that when assimilation and accommodation work together to produce cognitive change, there is a significant shift between conditions of cognitive equilibrium and disequilibrium (Anidar, 2017). One example of schemata change through assimilation, accommodation and equilibration, according to (Nugroho, 2015), is when the schemata experienced do not match the schemata previously owned, then the schemata tend to change to accommodate new input. For example, the assimilation of 5-year-old children with a scheme that light objects will float and heavy objects will sink. The child is instructed to predict a large block and a small metal rod thrown into the water. The child initially assumes

that the large object will sink and the small object will float. Still, when this is repeated several times, it turns out that the small object sinks and the large object floats, the child's prediction is wrong, and the child's initial scheme has difficulty maintaining. Gradually, as his experience develops, he begins to find a new but more accurate scheme: that objects with low density will float and objects with high density will sink.

Based on Piaget's theory, early childhood thought processes are still in the preoperational stage. This means that children still tend to focus on the most interesting aspects of the stimulus, preventing them from contemplating and integrating different aspects. In addition, children cannot reason logically (Yuhariati & Yuriansa, 2018). This stage is divided into 2 phases, namely the 2-4-year-old phase, called the symbolic stage, and the 4-7-year-old stage, called the intuitive stage (Kholiq, 2020). The symbolic stage is between the ages of two and four. Children learn to mentally represent intangible objects at this stage. The child's ability to describe things such as houses, cars, clouds, and so on shows how this ability expands the child's mental world. In addition, children enter the intuitive thinking phase between the ages of 4 and 7, during which they begin to engage in primitive reasoning and search for random answers to questions. At this point, promiscuity, fantasy and sometimes absurd weirdness characterize intuitive thinking.

Piaget's stages of play development, also known as types of play, fall into the categories of functional play and symbolic play, comprising constructive play, dramatic play, and play with rules (Ethridge et al., 2022). It is described in more detail as follows: 1) Functional play is mostly when the child repeatedly practices interacting with people, objects and language; this is a form of play for babies and toddlers; 2) Pretend play, also known as symbolic play, involves mental representation and fantasy. It is essential for human development and is the basis for abstract thinking. There are several types of symbolic play, which are as follows: a) Constructive play is a form of symbolic play because it involves children representing their experiences by using objects to make other objects; b) Dramatic play is another form of symbolic play; children create imaginary roles and situations using more abstract representations of objects, utilizing language and gestures; c) Rule-based play is another form of symbolic play that includes adherence to externally organized play, such as negotiating agreed rules that children can create.

### **The Teacher's Role According to Piaget's Theory**

In learning activities for early childhood, Piaget also conveyed the importance of educators because the teacher's role is to support the learning atmosphere. Educators should incorporate appropriate academic learning opportunities and create a learning environment based on student interests (Taylor & Boyer, 2020). Children are indirectly taught academic content or skills through educational playtime provided by educators. According to Gunanto (2021), the role of the teacher is as a facilitator who directs the learning process. More fully, Windayani (2020) explains the role of the teacher as a facilitator and motivator and explores children's knowledge. The following explains each task: 1) The teacher acts as a facilitator by exploring children's curiosity through interaction with the environment, stimulating children's cognitive development. Directing children in investigating their reality, making the climate a source of information for children, and child-centred learning; 2) Motivation provided by the teacher is in the form of encouragement and enthusiasm when children do activities; 3) Exploring children's knowledge, for example, teachers provide freedom and opportunities for students to be physically and mentally active. Respect children's differences. Teachers should design and facilitate various alternative activities that allow children to choose learning activities that interest them or let them take the initiative. Children have individual differences. Teachers provide many opportunities for children to

learn, and peers can assist teachers in completing tasks that children have not mastered.

### **Implementation of Play While Learning Using Piaget's Theory**

Many teachers use learning based on Piaget's Constructivist learning theory in current learning activities. Like the research conducted ([Windayani, 2020](#)), in its application in the learning process, namely during pre-learning, children often find and play with animals around the yard. Children explore and play according to their wishes. Based on observations, the constructive pattern is that children are free to explore and play. For example, when children are in the field, children are free to play, laugh with friends, and run. Children love to play with blocks and legos to form shapes that children like. Teachers at Bintang Hati Kindergarten try to encourage children to respond to an event they encounter and to seek their knowledge. The constructivist learning model in this study is that children learn to be directly involved by conveying ideas when planning an agreement and acting according to their wishes. The activities that children do are related to everyday life.

Furthermore, in research by Gunanto (2021), developing games as learning media appears as an alternative that can integrate learning elements that are arranged systematically. Implementing the learning process in-game media highly depends on game elements with goals, walls, obstacles, and rules. It enables the construction of knowledge in a contextually appropriate and more meaningful learning scenario. There is an implementation of Piaget's cognitive theory in education, according to Yurika & Jahja ([Windayani, 2020](#)), namely 1) concentrating on children's mental processes, not just results. With the level of cognitive function, appropriate learning experiences are created; 2) Children actively participate in learning activities and take the initiative; 3) children are encouraged to track their insights through unlimited communication with the climate; and 4) focusing on students' tasks to interact with each other.

### **Benefits of Playing While Learning According to Piaget's Theory**

The concept of the importance of play in kindergarten aims to create a learning environment that allows children to play while learning effectively. Play-based learning that is tailored to the characteristics of early childhood will certainly provide benefits for children, especially in early childhood development. In line with what was stated by Lestari (2020), children's abilities and potential can develop optimally through children's play. According to Piaget, play is important for developing children's thinking. According to Taylor & Boyer (2020), children can train their language skills through expression, communication, and sharing thoughts and feelings with their peers when participating in play activities. In addition, they will learn games and social rules such as sharing, taking turns, being responsible, and cleaning up after themselves. It has been shown that children's behaviour is influenced, and they can solve problems more effectively in a more teacher-directed environment than in a more student-centred and play-based environment ([Ethridge et al.2022](#)). Based on this, when children play, they indirectly train their abilities, such as thinking, language, emotional and social skills.

Research by Windayani (2020) uses a constructivist approach, freeing children to explore understanding of the events found. Children can convey their thoughts, children are dynamic in practice, children are dynamic in thinking, children cultivate ideas about things under consideration, and children can pursue a mutually chosen arrangement. This aligns with Piaget's thinking, emphasizing that learning does not occur passively but by actively constructing meaning. Then, according to Gunanto (2021), when teachers apply a constructivist approach to learning, the learning process becomes more enjoyable and occurs voluntarily. Based on this, the importance of construction learning theory is applied to activities for early childhood. This is by Sobiruddin et al. (2019), who state that the

learning system is not only a learning system but also an active one. Conventional learning, in the view of modern learning theory or constructivist learning theory, is considered unable to optimally develop students' intelligence and creativity, so student's understanding of the material that has been taught is not optimal because knowledge becomes rote.

## CONCLUSIONS

Piaget states that knowledge develops when faced with new experiences that build and modify prior knowledge. The thought process of early childhood based on Piaget's theory is at the Preoperational stage, meaning that children still tend to focus on the most attractive features of a stimulus, children are not yet able to reflect and integrate the various features of the stimulus, and children are not yet able to reason. Educators must create a learning environment based on students' interests and incorporate appropriate scientific learning opportunities. Educators provide play-based learning that, by default, prohibits academic content or skills that would not occur naturally. The teacher's role is as a facilitator, motivating and exploring the child's knowledge. Many studies have applied Piaget's theory of constructivism in children's activities of playing while learning, including its application to the learning process and the learning models and media used. When teachers apply constructivist approaches to learning, the learning process becomes more enjoyable and happens voluntarily.

## REFERENCES

- Abdiyah, L., & Subiyantoro, S. (2021). Penerapan teori konstruktivistik dalam pembelajaran tematik di sekolah dasar. *ELSE (Elementary School Education Journal): Jurnal Pendidikan dan Pembelajaran Sekolah Dasar*, 5(2), 127. <https://doi.org/10.30651/else.v5i2.6951>
- Agustyaningrum, N., Pradanti, P., & Yuliana. (2022). Teori perkembangan piaget dan vygotsky: Bagaimana implikasinya dalam pembelajaran matematika sekolah dasar? *Jurnal Absis: Jurnal Pendidikan Matematika dan Matematika*, 5(1), 568-582. <https://doi.org/10.30606/absis.v5i1.1440>
- Anditiasari, N., & Dewi, N. R. (2021). Analisis teori perkembangan kognitif piaget pada anak usia 11 tahun di brebes. *Mathline : Jurnal Matematika dan Pendidikan Matematika*, 6(1), 97-108. <https://doi.org/10.31943/mathline.v6i1.177>
- Anidar, J. (2017). Teori belajar menurut aliran kognitif serta implikasinya dalam pembelajaran. *Jurnal Al-Taujih : Bingkai Bimbingan dan Konseling Islami*, 3(2), 8-16. <https://doi.org/10.15548/atj.v3i2.528>
- Aulinda, I. F. (2020). Menanamkan budaya literasi pada anak usia dini di era digital. *TEMATIK: Jurnal Pemikiran dan Penelitian Pendidikan Anak Usia Dini*, 6(2), 88. <https://doi.org/10.26858/tematik.v6i2.15550>
- Budiwaluyo, H., & Muhid, A. (2021). Manfaat bermain papercraft dalam meningkatkan kreativitas berpikir pada anak usia dini. *PEDAGOGI: Jurnal Anak Usia Dini dan Pendidikan Anak Usia Dini*, 7(1), 76-93.
- Cahyaningtyas, A. S. (2020). Pembelajaran menggunakan augment reality untuk anak usia dini di Indonesia. *Jurnal Teknologi Pendidikan : Jurnal Penelitian dan Pengembangan Pembelajaran*, 5(1), 20. <https://doi.org/10.33394/jtp.v5i1.2850>
- Choiriyah, B. S. (2023). Implementasi teori perkembangan kognitif jean piaget di highslope bekasi. *Jurnal Pendidikan: Seroja*, 2(5), 271-281.

<https://doi.org/10.54150/altahdzib.v2i1.196>

- Ethridge, E. A., Malek-Lasater, A. D., & Kwon, K.-A. (2022). Fostering play through virtual teaching: challenges, barriers, and strategies. *Early Childhood Education Journal*, 1-11. <https://doi.org/10.1007/s10643-022-01419-x>
- Fadlillah, M. (2017). *Bermain dan permainan anak usia dini*. Prenada Media Grup.
- Fadlillah, M. (2020). *Buku Ajar Konsep Dasar PAUD*. Penerbit Samudra Biru.
- Fitria, N. (2021). Kemampuan keaksaraan melalui media digital "bermain keaksaraan" pada anak usia dini. *Raudhatul Athfal: Jurnal Pendidikan Islam Anak Usia Dini*, 5(1), 36-49. <https://doi.org/10.19109/ra.v5i1.6781>
- Giamulia, D. S., & Ester. (2020). Metode bermain salah satu metode pembelajaran untuk anak. *Jurnal Teologi dan Pendidikan Kristen*, 3(1), 35-45. <https://doi.org/10.60146/.v3i2.30>
- Gunanto, S. G. (2021). Game-based learning: media konstruktif pembelajaran mandiri bagi siswa. *Rekam*, 17(1), 71-76. <https://doi.org/10.24821/rekam.v17i1.4951>
- Halimatuzzuhrotulaini, B., & Jauhari, E. (2021). Pendidikan seks sebagai upaya mencegah kekerasan seksual pada anak. *Jurnal Pendidikan AURA (Anak Usia Raudhatul Atfhal)*, 2(1), 54-72. <https://doi.org/10.37216/aura.v2i1.465>
- Hanita, Suryono, & Fauziah. (2023). Manajemen pembelajaran berbasis proyek pada pendidikan anak usia dini. *Jurnal Warna : Pendidikan Dan Pembelajaran Anak Usia Dini*, 8(1), 99-109. <https://doi.org/10.24903/jw.v8i1.1289>
- Harahap, R. A. S. (2022). Mengembangkan kreativitas anak usia dini melalui bermain. *Jurnal Pendidikan dan Konseling*, 4(5), 625-630. <https://doi.org/10.31849/paud-lectura.v5i02.8632>
- Harjanty, R., & Muzdalifah, F. (2022). Implementation of STEAM project-based learning in developing early childhood cooperation. *Atfālunā Journal of Islamic Early Childhood Education*, 5(1), 47-56. <https://doi.org/10.32505/atfaluna.v5i1.4093>
- Hasan, M., Aji, N. U. bayu, & Suyitno, M. (2023). *Pendidikan karakter anak usia dini*. PT SADA KURNIA PUSTAKA.
- Hayes, C., & Graham, Y. (2019). Understanding the building of professional identities with the LEGO® SERIOUS PLAY® method using situational mapping and analysis. *Higher Education, Skills and Work-Based Learning*, 10(1), 99-112. <https://doi.org/10.1108/HESWBL-05-2019-0069>
- Husnul, A., & Marilang, M. (2021). Perlindungan hukum terhadap hak-hak anak jalanan di kota Makassar perspektif hukum Islam. *Qadauna: Jurnal Ilmiah Mahasiswa Hukum Keluarga Islam*, 2(3), 504-518. <https://doi.org/10.24252/qadauna.v2i3.19329>
- Istiqomah, N., & Maemonah, M. (2021). Konsep dasar teori perkembangan kognitif pada anak usia dini menurut jean piaget. *Khazanah Pendidikan*, 15(2), 151. <https://doi.org/10.30595/jkp.v15i2.10974>
- Kelana, J. B., & Wardani, D. S. (2021). *Model pembelajaran IPA SD*. Edutrimedia Indonesia.
- Khaira, N., Suhartati, Rosmiati, Bahrin, & Mutmainnah. (2022). Tinjauan terhadap pemanfaatan alat permainan edukatif (APE) oleh guru di TK Al-Azhar Siem. *Jurnal Ilmiah Mahasiswa Pendidikan Anak Usia Dini (JIM PAUD)*, 7(2), 1-10. <https://doi.org/10.33578/jpsbe.v10i1.7699>

- Khodijah. (2014). Psikologi Pendidikan. PT Raja Grafindo Persada.
- Kholiq, A. (2020). How is piaget's theory used to test the cognitive readiness of early childhood in school? Indonesian Journal of Early Childhood Education Studies, 9(1), 24-28. <https://doi.org/10.15294/ijeces.v9i1.37675>
- Khotimah, K., & Agustini, A. (2023). Implementasi teori perkembangan kognitif jean piaget pada anak usia dini. Al Tahdzib: Jurnal Pendidikan Islam Anak Usia Dini, 2(1), 11-20. <https://doi.org/10.54150/altahdzib.v2i1.196>
- Kim, S. J., & Bacos, C. A. (2023). Wearable stories for children: Embodied learning through pretend and physical play. Interactive Learning Environments, 31(1), 129-141. <https://doi.org/10.1080/10494820.2020.1764979>
- Kurniawan, M. R., & Rahman, Y. A. (2019). Teori belajar kognitif membedah psikologi belajar jean piaget. Jurnal Pendidikan Islam, 3(2).
- Lestari, L. D. (2020). Pentingnya mendidik problem solving pada anak melalui bermain. Jurnal Pendidikan Anak, 9(2), 100-108. <https://doi.org/10.21831/jpa.v9i2.32034>
- Maryam, S. (2019). Meningkatkan kemampuan berhitung anak melalui permainan kartu angka pada kelompok B TK NW lelupi kecamatan sikur. Nusantara, 1(1), 87-102. <https://doi.org/10.31004/jote.v1i1.509>
- Mastiyah, S. (2023). Teori Konstruktivisme Dalam Pembelajaran. Jurnal Prodi PGMI Al-Misbah, 9(1), 88-101.
- Matulesy, A., Muhid, A., & Ismawati. (2022). Efektivitas permainan tradisional congklak untuk meningkatkan kemampuan matematika siswa: Aksioma: Jurnal Matematika dan Pendidikan Matematika, 13(1), 165-178.
- Munifa. (2016). Meningkatkan keterampilan tolak peluru melalui pendekatan pembelajaran bermain pada siswa kelas v SD Inpres 2 Kaluku Tinggi Kecamatan Dolo Barat Kabupaten Sigi. Tadulako Journal Sport Science And Physical Education, 4(1), 1-14.
- Mustaghfiroh, S. (2020). Konsep "merdeka belajar" perspektif aliran progresivisme John Dewey. Jurnal Studi Guru dan Pembelajaran, 3(1), 141-147. <https://doi.org/10.30605/jsgp.3.1.2020.248>
- Nainggolan, A. M., & Daeli, A. (2021). Analisis teori perkembangan kognitif Jean Piaget dan implikasinya bagi pembelajaran. Journal of Psychology "Humanlight," 2(1), 31-47. <https://doi.org/10.51667/jph.v2i1.554>
- Nugroho, P. (2015). Pandangan kognitifisme dan aplikasinya dalam pembelajaran pendidikan agama islam anak. ThufuLA: Jurnal Inovasi Pendidikan Guru Raudhatul Athfal, 3(2), 281-304.
- Nuraeni, F., & Lubis, M. (2022). Pola asuh orang tua dan implikasinya terhadap pembentukan karakter anak. Jurnal Pendidikan Anak Usia Dini Undiksha, 10(1), 137-143. <https://doi.org/10.23887/paud.v10i1.46054>
- Nurtaniawati. (2017). Peran guru dan media pembelajaran dalam menstimulasi perkembangan kognitif pada anak usia dini. Tunas Siliwangi: Jurnal Program Studi Pendidikan Guru PAUD STKIP Siliwangi Bandung, 3(1), 1-20.
- Oktaria, R., & Putra, P. (2020). Pendidikan anak dalam keluarga sebagai strategi pendidikan anak usia dini saat pandemi covid-19. Jurnal Ilmiah Pesona PAUD, 7(1), 41. <https://doi.org/10.24036/108806>

- Pandia, W. S. S., Hendriati, A., & Widyawati, Y. (2022). Menilik lebih dalam pendidikan anak usia dini. Penerbit PT Kanisius.
- Pangestu, Y. A., Ruja, I. N., Sukamto, S., & Maulida, K. (2021). Kontruksi sosial judi togel di Desa Padang Kecamatan Trucuk Kabupaten Bojonegoro. *Jurnal Integrasi dan Harmoni Inovatif Ilmu-Ilmu Sosial (JIHI3S)*, 1(9), 1051-1058. <https://doi.org/10.17977/um063v1i9p1051-1058>
- Paujiah, T. S., Muslihin, H. Y., & Rahman, T. (2022). Peran lingkungan dalam menstimulasi perkembangan bahasa serta menumbuhkan karakter anak usia dini. *PELANGI: Jurnal Pemikiran dan Penelitian Islam Anak Usia Dini*, 4(1), 103-122. <https://doi.org/10.52266/pelangi.v4i1.821>
- Permadi, K. S., & Dewi, P. Y. A. (2022). Esensi permainan playdough dapat meningkatkan kemampuan kognitif anak usia dini. *Widya Kumara: Jurnal Pendidikan Anak Usia Dini*, 3(1), 41. <https://doi.org/10.55115/widyakumara.v3i1.2071>
- Rahmawati, A. (2022). Program Parenting Pada Pendidikan Anak Usia Dini. CV Rumah Pustaka.
- Retnaningsih, L. E., & Rosa, N. N. (2021). Trik jitu menanamkan pendidikan karakter pada anak usia dini. Nawa Litera Publishing.
- Rijkiyani, R. P., Syarifuddin, S., & Mauizdati, N. (2022). Peran orang tua dalam mengembangkan potensi anak pada masa golden age. *Jurnal Basicedu*, 6(3), 4905-4912. <https://doi.org/10.31004/basicedu.v6i3.2986>
- Saputro, M. N. A., & Pakpahan, P. L. (2021). Mengukur keefektifan teori konstruktivisme dalam pembelajaran. *Journal of Education and Instruction (JOEAI)*, 4(1), 24-39. <https://doi.org/10.31539/joeai.v4i1.2151>
- Septarini, D. (2021). Pembuatan game edukasi mengenai materi hafalan doa harian sebagai media pembelajaran berbasis android. *Jurnal Multi Media dan IT*, 5(1), 33-44. <https://doi.org/10.46961/jommit.v4i1.349>
- Setiyaningsih, S., & Subrata, H. (2023). Penerapan problem based learning terpadu paradigma konstruktivisme vygotsky pada kurikulum merdeka belajar. *Jurnal Ilmiah Mandala Education*, 9(2). <https://doi.org/10.58258/jime.v9i2.5051>
- Setyani, N. H., Handayani, A., & Rahmawati, D. (2023). Pengembangan keterampilan numerasi dan kemampuan kognitif pada anak usia dini melalui media pembelajaran menggunakan bahan alam. *Jurnal Insan Pendidikan dan Sosial Humaniora*, 1(3), 55-73.
- Sidiq, A. M., & Muqowim. (2020). Pengembangan kreativitas anak melalui konsep merdeka belajar di sanggar anak alam. *Jurnal Program Studi PGRA*, 6(2), 146-156.
- Sobiruddin, D., Dwirahayu, G., & Kustiawati, D. (2019). Pengembangan media ict berbasis proyektor interaktif bagi guru dan siswa Raudhathul Athfal (Ra). *Edcomtech Jurnal Kajian Teknologi Pendidikan*, 4(1), 8-18. <https://doi.org/10.17977/um039v4i12019p008>
- Tanjung, R. (2020). Peran orangtua dalam pendidikan anak usia dini di masa pandemi covid-19. *Murhum: Jurnal Pendidikan Anak Usia Dini*, 1(2), 64-73. <https://doi.org/10.37985/murhum.v1i2.18>
- Taylor, M. E., & Boyer, W. (2020). Play-based learning: evidence-based research to improve children's learning experiences in the kindergarten classroom. *Early Childhood Education Journal*, 48(2), 127-133. <https://doi.org/10.1007/s10643-019-00989-7>

- Triandini, E., Jayanatha, S., Indrawan, A., Werla Putra, G., & Iswara, B. (2019). Metode systematic literature review untuk identifikasi platform dan metode pengembangan sistem informasi di Indonesia. *Indonesian Journal of Information Systems*, 1(2), 63. <https://doi.org/10.24002/ijis.v1i2.1916>
- Udjir, N., & Watini, S. (2022). Implementasi model ATIK dalam meningkatkan kemampuan bahasa anak melalui permainan kartu bergambar di RA Ifitah Al-Ikhlas Ambon. *Aksara: Jurnal Ilmu Pendidikan Nonformal*, 8(3), 1861. <https://doi.org/10.37905/aksara.8.3.1861-1872.2022>
- Ulfah, M. (2020). *Digital parenting: Bagaimana orangtua melindungi anak-anak dari bahaya digital?* Edu Publisher.
- Vidiyanti, E., Vienna, T. D., Daniela, R., & Puspaningtyas, A. (2023). Peranan komunikasi orang tua dan anak dalam penerapan parenting education (bermain alat peraga edukatif) di Desa Bejjong. *ABDI MASSA: Jurnal Pengabdian Nasional*, 3(2), 9-15.
- Wardani, H. K. (2022). Pemikiran teori kognitif piaget di sekolah dasar. *Khazanah Pendidikan*, 16(1), 7. <https://doi.org/10.30595/jkp.v16i1.12251>
- Windayani, N. L. I. (2020). Pelaksanaan pembelajaran konstruktivistik di TK Bintang Hati Desa Sidetapa, Kecamatan Banjar, Kabupaten Buleleng. 4(2), 83-87.
- Yuhariati, Y., & Yuriansa, A. (2018). Patterns playing for early childhood education: Mathematics learning for early childhood education. *Journal of Physics: Conference Series*, 1088(012099), 1-5. <https://doi.org/10.1088/1742-6596/1088/1/012099>
- Yunaini, N., & Winingsih, D. Y. (2022). Implikasi perkembangan kognitif dalam pembelajaran di sekolah dasar. *Cendekiawan*, 4(2), 78-86. <https://doi.org/10.35438/cendekiawan.v4i2.257>
- Yunarti, S., Harmaningsih, D., & Wijayanti. (2023). Learning by playing, playing for learning. *Media Abdimas*, 2(3), 42-51. <https://doi.org/10.37817/mediaabdimas.v2i3.3482>