Practical Analysis of Cognitive Theory on Early Childhood Development

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ABSTRAK. Latar belakang penelitian ini adalah masih kurangnya perhatian terhadap pencapaian indikator-indikator perkembangan kognitif anak usia dini. Tujuan penelitian ini yakni memberikan informasi mengenai teori-teori kognitif dan bagaimana praktisnya pada perkembangan anak usia dini. Metode penelitian ini menggunakan penelitian deskriptif dengan pendekatan kualititif. Teknik pengumpulan data yang digunakan adalah observasi dan dokumentasi. Hasil penelitian menunjukkan bahwa anak usia 3 tahun yang diobservasi sudah berkembang sesuai usia berdasarkan indikator pada standar perkembangan. Anak sudah mampu memfungsikan akal material dan akal naluri sudah, namun akal mustafat belum. Sesuai dengan teori Piaget, anak yang diobservasi berada pada tahap berpikir simbolik dan tahap Potential Development (PD), dan tahap iconic (3-5 tahun). Metode yang digunakan orang tua untuk menstimulasi perkembangan kognitif anak yang diobservasi diantaranya: a) Metode Bercakap-cakap, b) metode tanya jawab, c) metode bercakap-cakap, d) metode demonstrasi. Anak baru sampai pada keterampilan C4 pada teoti Bloom. Kemudian anak juga sudah mampu menunjukkan keterampilan berpikir kritis, kreatif, metakognisi, matematika dan sains.
 Kata kunci: Analisis, Teori Kognitif, Anak Usia Dini

ABSTRACT. *The background of this research is the lack of attention to the achievement of early childhood cognitive development indicators. The purpose of this study is to provide information about cognitive theories and how they are practical in early childhood development. This research method uses descriptive research with a qualitative approach. Data collection techniques used are observation and documentation. The results showed that the observed 3-year-old children had developed according to age based on indicators on developmental standards. The child is already able to function the material mind and instinctive mind, but the mustafat reason is not yet. In accordance with Piaget's theory, the observed children are at the symbolic thinking stage and the Potential Development (PD) stage, and the iconic stage (3-5 years). The methods used by parents to stimulate children's cognitive development were observed including: a) Conversational Method, b) Question and answer method, c) Conversation method, d) Demonstration method. The new kid arrives at skill C4 in Bloom's theory. Then the child is also able to demonstrate critical thinking skills, creative, metacognition, mathematics and science.*
 Keywords: Analysis, Cognitive Theory, Early Childhood

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INTRODUCTION

Cognitive development is one of the determining factors for a child's success in the future. This should be addressed quickly and responsively by parents and even the parent salon. The fact is that there are still many parents who do not realize the importance of children's cognitive development (Novitasari, 2018). In fact, parental participation can be in the form of simple activities such as asking children about today's activities, playing with children, making educational game tools for children, and so on (detik.edu, n.d.). One important part of a child's cognitive development is parenting (Platinum.com, 2021) namely by providing AA, DHA, Omega 3 and Omega 6 nutrients, containing 14 vitamins, 9 minerals and a triple protein formula (pediasure.com, 2020)**,** prebiotic fiber FOS:GOS 1:9 which supports a good digestive tract so that it supports optimal brain development and maintains his mood (Bebeclub.com, 2022)**.**

Various attention is given to early childhood development solely so that children can achieve the indicators in the standard level of achievement and development of children (STTPA)(Kementerian Agama Republik Indonesia, 2021). The indicators achieved in early childhood can be recorded by observing children. This observation is not only carried out by teachers but also parents as the closest party to children. Many previous studies examined cognitive development from various aspects including (Hartanto et al., 2011), (Pratiwi, 2020), (Dukungan et al., 2022), (Yaswinda et al., 2023), (Ambarwati, 2023), (Lestari, 2022), (Kusumawardhany et al., 2023), (Awalunisah & Setianingsih, 2023), (Valentina Dewi et al., 2023), (Bangsawan et al., 2022), (Kusumastuti et al., 2021), (Izzati, L., & Yulsyofriend, 2020), (Novitasari & Fauziddin, 2020), (Setyaningrum et al., 2014), (yudan Hermawan, 2017), (Veronica, 2018), (Retnaningrum & Umam, 2014), (Hapsari, 2020), (Fitriana, 2022), (Kasumayanti & Elina, 2018), (Intelektual et al., 2011),(Ibda, 2015).

METHODE

This research is a descriptive research with a qualitative approach (Sugiyono, 2014). The data in this study were collected by observation and documentation techniques. The analysis technique used is descriptive analysis technique (Daddy Mulyana, 2006). Observation techniques are carried out by intensive observation of early childhood with some stimulation given. This research is subject research, so data is taken from predetermined subjects which in this study are children aged 3 years.

RESULT AND DISCUSSION

1. Imam Al-Ghazali's Cognitive Theory

   According to Al-Ghazali, children are born with different potentials to meet the needs of the world and the hereafter. Al-Ghazali divides reason into four parts, namely: a) Material Intellect, a mind that knows the environment with sensors of the five senses. In the children who were observed, he used reason when he cried when his wound was exposed to water, danced a little when he ate sweet food and immediately threw it away if the food was bitter or sour; b) Instinct Intellect, the mind that is used when seeking the truth of a fact or an essence. In the children he observed, he used this sense when Realizing that fish cannot live on land and cats cannot swim in water; c) Active Mind, where the mind is used to understand. The children I observe use this mind every time they want to understand something. One example is when he understands the reason he cries when he wakes up, which is thirst or no parents around. When told the reason, he would be silent; d) Mustafat reason, namely reason used to solve problems. Mustafat reason has not been reflected in the research subjects because the children observed are still relatively young and firstborn, they are very spoiled by their parents and rarely solve their own problems.

2. Piaget' Theory

   Piaget divides cognitive development into 4 parts, namely a) Motor Sensor Stage, b) Preoperational Stage, c) Concrete Operational Stage, and d) Formal Operational Stage. Children aged 3 years enter the Preoperational stage. Where the Preoperational stage ranges from 3-6 years of age. The pre-operational stage is this stage which is the second of the four stages. This stage lasts approximately from the age of two to seven years. This is a more symbolic thought stage than the sensorimotor stage but does not involve operational thought, but it is more egocentric and intuitive than logical. An example of Piaget's theory in observed children is symbolic thinking: sticking a milk bottle to a doll's mouth, drinking an empty cup and pretending to drink. The following reasoning emerged: Play and replace videos on Youtube without assistance. Egocentric, not wanting his grandfather to pay attention to other people.

3. Vygotsky's Theory

   Vygotsky argued that children develop more systematic, logical, and rational concepts as a result of conversations with a skilled helper. The zone of proximal development (ZPD) is Vygotsky's term for a set of tasks that are too difficult for a child to master alone but can be learned with help from adults or more capable children, so the lower limit of the ZPD is the level of problems a child can solve alone. The upper limit is the level

of responsibility or additional work the child can accept with assistance from an able instructor. The observed children are still in the Potential Development (PD) stage, solving problems with parental or adult guidance. For example, a child cries because the toys he stacks as high as possible always fall over, so he asks adults to help find a way so that the toys don't fall over again.

4. Bruner's Theory

Bruner (1966) in his book Toward Theory of Instruction reveals that children learn from the concrete to the abstract through three stages: enactive, iconic and symbolic. The children I observed were in the iconic stage (3-5 years). In the isonic process, children begin to learn to develop symbols with objects. For example: Using his big doll to become an evil giant, engineering a car crash with his little cars.

5. Aspects of Cognitive Development

Several aspects of development along with examples of what I observed by children were: a) Perception, children perceive drinks that are placed larger than those that are medium in size. Even though there is the same amount of water in it, only the size is different; b) Memories, Remembering the promises made until they are actually kept; c) Thoughts, fatigue from walking to the shop so they don't want to walk to the shop again the next day, d) Symbols, the child who is the subject of observation does not understand symbols; e) Reasoning, knowing and staying away from fire because it is dangerous; f) Problem Solving, Can solve problems even with the help of adults.Tahapan Perkembangan Kognitif. Cognitive development stages are divided into Sensory Stages (0-2 years), AUD Stages (3-6 Years), Affirmation Stages (7-10 Years), and Early Adolescent Stages (11-15 Years). And the stage of the child being observed is the AUD stage (3-6 years). At this stage the child has gone through the sensory period and is like AUD in general, such as imitating and preferring to play.

6. Cognitive Development Method

The methods used by parents to stimulate the cognitive development of children that were observed included: a) The Conversational Method, carried out routinely by parents, such as allowing the child to express what is on his mind even though the language his parents do not really understand; b) Question-and-answer method, easily curious and often asked 'what is that, huh?' 'what is it, ma'am? And every time he explained something he would ask at the end 'Yes?' c) Conversational Method; d) Demonstration Method, namely the presentation of lessons by demonstrating and demonstrating to students a process,

procedure and or proof of a subject matter being studied by showing actual objects or imitation objects as learning resources. For example knowing cows by showing them directly and knowing the texture of the soil by being allowed to play with native soil.STPPA Kognitif Anak 3 Tahun.

This child is in the developmental age of 3-4 years, with the following development indicators: a) Mentioning the names of various foods and their tastes, in this case the child is able to recognize the taste of sweet candy, hot chili peppers and sour oranges; b) Mention the various uses of objects, in this case the child is able to know cellphones for making calls, knives for cutting, and latrines for defecating; c) Doing the task until it's finished, in this case the child is able to clean up the toys after use; d) Answer what will happen next from various possibilities, in this case the child understands that if you climb to a high place you will fall • Say the numbers 1-10 and recognize some letters of the alphabet; e) Start following the applause pattern, at this time the children are able to clap according to the tempo of the birthday song; f) Drawing something specific, at this time the child is able to draw a duck; g) Explaining the work he has made, this time the child is able to make a tower out of blocks and can explain it; h) Carrying out planned activities with friends, at this time children are playing in the markets; i) Understanding the difference between two things of the same kind, this time the child can distinguish between fish and chicken; j) Get to know the concept of a lot and a little, at this time the child is jealous when he sees something in his hand that is less than his friends'; k) Understanding the similarities between two objects, at this time the child is able to understand edible fruits, such as rambutan and banana.

7. Bloom's Taxonomy

Bloom's taxonomy consists of C1-C7, namely Knowing, Understanding, Applying, Analyzing, Synthesizing, Evaluating and Creating. The child I observed just reached C4, namely Analyzing. C1 is applied by mentioning the names of objects that have been previously mentioned and also knowing God's creatures such as animals, plants and humans. C2 is applied to be able to distinguish sour, spicy, or sweet tastes. Be able to distinguish between rotten and fragrant odors. C3 is implemented by Knowing when you want to buy something using money, counting on your fingers, and covering your nose when you smell bad. C4 is implemented by observing the duck carefully, then asking about the duck and being able to draw it.

8. Theory of Critical Thinking

Children who are the subject of the presentation are able to think critically as follows: a) Know the difference between fish and chicken, and why fish cannot live on land;

b) Knowing that heavy rains can flood the environment; c) Be able to give reasons why he is prohibited from climbing to a high place.

9. Creative Learning Theory

   The child who is the subject of the presentation is already able to think critically as follows: a) Imitates the tiktok dance moves, follows them and finds new dances for themselves and stays in tune with the tone of the song being played; b) Cutting paper to follow the shape of his imagination; c) Likes to play roles and create their own storylines; d) Stacking blocks into a tower and making the big doll a giant.

10. Metakognisi's Theory

    The several stages of the metacognition theory are a) Planning Process, the child prefers to ride his bicycle with grandfather to see the cows rather than following his mother to the shop, because he likes animals; b) Monitoring process, children increase the speed of riding their bicycles so that they arrive quickly; c) Evaluation process, not wanting to tire the child preferring to ask his grandfather for help pushing his tricycle

11. Neuroscience, Social Cognitive, Mathematics and Science

    The development of the child's brain 3-4 years, the child is able to control his movements, such as stopping then moving then stopping again and so on. Children are able to jump, tiptoe while walking. Children are able to group objects according to color. Children are also able to tell the events they experienced even though the language is not clear. Children follow Tiktok trends, YouTube videos or upin-ipin films they watch. For example; using the word 'asiap' when answering questions, constantly repeating the trend 'Kiyomasa, nande-nande' and 'Good morning Cekgu' when greeting others. Math. Already familiar with simple puzzles. Counts to 10. Understands 'full' or 'empty' volume. Follow the number of claps, for example three times. Science, Blowing dish soap until it bubbles, baking sand and water cakes and then drying them in the hot sun.

12. Media and Stimulation Programs

    The media used by the research object are; a) Blocks, as well as introducing them to the shape of blocks in everyday life; b) Puppets, as props for the play; c) Bathup, to introduce the terms sinking, floating and also being a tool for experiments using soap and shampoo; d) Swing, feel the feeling of floating. While the stimulation program that was carried out for this child was a) Answering as much as possible the questions the child gave; b) Provide books and shows that make children more curious; c) Making educational game tools, such as beams, houses from used goods; d) Do not prohibit children.

Figure 1. The observed child

CONCLUSION

Based on the results of observations made, it shows that the observed 3-year-old children have developed according to age based on indicators on developmental standards. The child is already able to function the material mind and instinctive mind, but the mustafat reason is not yet. In accordance with Piaget's theory, the observed children are at the symbolic thinking stage with examples of the attitude of being able to attach a milk bottle to a doll's mouth, drink an empty cup and make a sound pretending to drink, reasoning appears in the form of playing and changing videos on Youtube without help and egocentric attitude, did not want his grandfather to pay attention to others. The observed children are still in the Potential Development (PD) stage, solving problems with parental or adult guidance. For example, a child cries because the toys he stacks as high as possible always fall over, so he asks adults to help find a way so that the toys don't fall over again.

The children I observed were in the iconic stage (3-5 years). In the iconic process, children begin to learn to develop symbols with objects. For example: Using his big doll to become an evil giant, engineering a car crash with his little cars. The methods used by parents to stimulate children's cognitive development were observed including: a) Conversational Method, b) Question and answer method, c) Conversation method, d) Demonstration method. The new kid arrives at skill C4 in Bloom's theory. Then the child is also able to demonstrate critical thinking skills, creative, metacognition, mathematics and science.

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