

Brain development as a basic for strengthening early childhood education

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Abstract

The purpose of this study is to understand the learning process carried out in PAUD that refers to the characteristics of early childhood development and all the inherent nature of children. The type of research used in this study is descriptive research with a qualitative approach. The data taken, identified in the following order: (1) data collection (2) data sorting (3) data analysis (4) conclusion making. The results are 1). Creating a learning environment that can make children engrossed in the learning experience, namely by involving all physiological aspects of the child. 2). Provide diverse learning opportunities in the classroom, 3). Creating an active learning environment, 4). Creating a learning atmosphere that is free of pressure and threat but still challenging for children to find out more.

Keywords: Brain; Development; Early; Childhood; Education

1. Introduction

Indonesia will celebrate its golden anniversary in 2045. The declaration of the golden generation The declaration of the golden generation by the Minister of Education and Culture, Muhammad Nuh, during the commemoration of the National Education Day in 2012, encouraged the rise of Indonesia's golden generation. To encourage the rise of the golden generation, the Minister of Education and Culture at that time stated, in the period from 2010 to 2035, the government will make massive investments in the field of human resource development (HR) as an effort to prepare the 2045 generation, which is 100 years of Indonesia's independence (Yuniarni, 2016).

Early childhood is the "golden age", meaning it is the golden period for all aspects of human development, both physical, cognitive emotional and social. for all aspects of human development, both physical, emotional cognition and social. Children develop through interaction with the environment. One environment that plays a role is parents. However, in recent years the number of parents, especially working mothers, has increased; at the same time, groups or institutions that organise education outside the home for early childhood have emerged. This condition seems to coincide with the need for parents to be able to continue their children's development. Parents expect that in kindergarten their children will receive adequate stimulation for their development. In a learning environment outside the home or in kindergarten, children will learn and be stimulated in a way that is considered appropriate (Kutsiyah, 2018).

Childhood is one of the periods in the span of human life that must be passed by all humans in this world. It is during this period that there are many processes of instilling the value of life for the first time. During this period, the hopes of parents who always want their children to become someone useful and successful in the future are always resting (Azizah et al., 2019).

Early childhood education should also include the entire process of psychosocial stimulation and is not limited to the learning process that occurs in educational institutions. This means that early childhood education can take place

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anywhere and anytime as well as human interactions that occur within the family, peers, and from community relationships that are appropriate to the conditions and development of early childhood (Yuniarni, 2016).

The sensitive period in each child is different, along with the rate of growth and development of the child individually. This period is also the first foundation for developing cognitive, language, movement-motor, and socio-emotional skills in early childhood (Ariyanti, 2016).

The basic skills and knowledge that children already have will continue to develop when they are given space to express themselves, explore freely with the help of parents as good observers. When they have the space to express themselves, explore freely with the help of parents as good observers. Play at home can allow children to learn optimally unlike many traditional classrooms, play at home can be a fun activity for early childhood where they can move freely and use a variety of media available at home so that children's development can develop more optimally (Iskandar et al., 2022).

2. Literature review

Siombo states knowledge is the ability to remember some information using human thinking that gives meaning and purpose, the ability to know places, the ability to know time, and the ability to express opinions and so on. Knowledge is developing, adding to perfection because with knowledge, subjects who did not know became aware, objects that were not known became known, but because human knowledge is limited and imperfect so knowledge always grows and develops (Adriana & Zirmansyah, 2021).

Based on Law Number 20 Year 2003 on the National Education System relating to Early Childhood Education, in article 28 paragraph 1 which reads "Early Childhood Education is held for children from birth to six years and is not a prerequisite for attending basic education." Furthermore, in Chapter I article 1 paragraph 14 it is confirmed that Early Childhood Education is a coaching effort aimed at children from birth to six years of age which is carried out through providing educational stimuli to help the growth and and physical and spiritual development of children in order to have readiness to enter further education.

Brain growth is critical to the physical, cognitive, and emotional development of individuals. There is no doubt that the brain is the centre of intelligence. The brain functions to think, control emotions, and coordinate body activities. Thus, if we are able to understand the development of the human brain, we will also be able to understand the development of the human brain. We will also be able to understand the development that occurs in humans, which in turn can help to optimise all the potential that exists in individuals. Similarly, it is important to understand brain development in early childhood, so that later we will be able to understand efforts that can optimise all the potential that exists in early childhood. The brain in individuals begins to develop gradually at around 2 weeks after conception, developing from a long tube into a cluster of round cells. Nine months later, the baby is born with a brain and nervous system containing nearly 100 billion nerve cells (Azizah et al., 2019).

Children's lack of understanding of the latent dangers around them makes children prey to sexual predators around them, therefore schools and teachers have an important role to play in preventing sexual violence against children by introducing sex education to children at an early age, this is very important considering that sexual crimes are increasingly prevalent and victims start from children aged 3 years (Angraini et al., 2017).

3. Methods

The type of research used in this study is descriptive research with a qualitative approach. The data taken, identified in the following order: (1) data collection (2) data sorting (3) data analysis (4) conclusion making. As for data analysis, there is a predetermined sequence in accordance with the empirical steps taken, namely as follows: (1) Examination of data (2) suspected data findings, (3) Data confirmation (4) Diagnosis, (5) Action. The description of the data, presentation, analysis and findings that will be obtained from this study will be written in the paragraphs below, in the research discussion segment.

4. Results and discussion

4.1. Cognitive Development

According to Piaget, there are four stages of cognitive development that occur during childhood, namely: (a) Sensorimotor Stage (0-2 years) Characterisation at this stage is that children are able to recognise themselves as

perpetrators of an action and begin to act deliberately, for example by pulling the rope deliberately, for example by pulling the rope of a car or shaking a toy to produce a sound. In addition, the child has also achieved object permanence, realising that objects continue to exist even though they are no longer captured by the senses. (b). Preoperational Stage (2-7 years) Characterised at this stage are children have learnt to use language and represent objects with stories and words. In addition, the child still has egocentric thinking, where the child has difficulty in visualising objects. (c) Concrete Operational Stage (7-11 years). The characterisation of this stage is that children can already think logically about objects and events. In addition, the child can achieve conversions of ka (age 6), group (age 7), and weight (age 9). The child is also able to classify objects according to some characteristics and can sort them serially according to the following a single dimension, such as size. (d) Formal Operational Stage (11 years and above) The characterisation of this stage is children can already think logically about abstract problems and test hypotheses systematically. In addition, children can already pay attention to hypo- tetic, future, and ideological issues(Azizah et al., 2019).

4.2. Socio-emotional Development

Emotions are subjective reactions to experiences that are associated with psychological and behavioural changes to experiences that are associated with psychological and behavioural changes. Children begin to develop basic emotions starting at 6 months of age, where these basic emotions include feelings of pleasure, anger, sadness, and fear. Although progressively, from the time the child is born, infants are able to show their emotions in simple forms(Azizah et al., 2019). Papalia, Old, & Feldman explain that this early signalling of infant feelings is an important developmental step.explained that these early signals or cues to the baby's feelings are an important step in development. When a baby wants or needs something, the baby will cry. When the baby feels comfortable (sociable), the baby will smile or laugh. When the child's message generates a response, their sense of connection with others also grows(Azizah et al., 2019).

4.3. Moral Development

As is well known, in everyday life, a question often arises about actions or behaviour which actions are associated with something good and bad or right and wrong. Often the question arises either before the action is done, while it is done, or after it is done. What kind of deeds or actions are considered to be good? Or what kind of action is bad behaviour? Is what is in accordance with the rules a good deed? Or is it only actions that are in accordance with one's conscience that can be said to be good? Talking about good and bad is talking about morals. Santrock explains that moral development is one of the important dimensions in children's socioemotional development. Moral development is concerned with rules and conventions about what individuals should do in their interactions with others. Kohlberg defines moral development as a direct internalisation of external cultural norms, whereby the growing child is trained to behave in such a way that the individual conforms to the various rules and values of society(Azizah et al., 2019).

5. Conclusion

It can be concluded that the learning strategy that can optimise education in early childhood is through brain-based learning with the following principles (Azizah et al., 2019): 1). Creating a learning environment that can make children engrossed in the learning experience, namely by involving all physiological aspects of the child. 2). Provide diverse learning opportunities in the classroom, 3). Creating an active learning environment, 4). Creating a learning atmosphere that is free of pressure and threat but still challenging for children to find out more, 5). Creating a curriculum that fosters children's interest and contextualisation so that children can grasp the meaning of what they are learning, 6). Provide subjects that involve concrete experiences, especially in problem solving, because the most effective learning process is not by lecturing, but by being given real experiences What has been stated earlier is just some of the principles that can be used as a guide in teaching children to learn.Just some of the principles that can be used as a guide in optimising early childhood education through brain-based learning. However, educators can still explore more things that can make early childhood education run optimally. With Note that all that is done must be in accordance with the stages of child development and not override the basic and natural needs of children.

Compliance with ethical standards

Disclosure of conflict of interest

There was no conflict of interest.

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