Cognitive Development of Children Aged 4-7 Years During The Covid-19 Pandemic

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Abstract
Cognitive development is one aspect of child development that is very important to get intervention during the COVID-19 pandemic; Cognitive develop is closely related to thinking skills, such as reasoning, memory, and the ability to solve practical problems. The cognitive mindset of early childhood is very much different from people who are teenagers and adults or even children who are in middle school and above. Elementary school-age children have limitations in thinking about abstract things; cognitive development correlates with other developments and will impact children's academic abilities. The purpose of this paper is to examine how early the cognitive development of early childhood during the covid-19 pandemic and what strategies parents carry out in developing early childhood cognitive development during the covid-19 pandemic? Based on the formulation of the problem above, the data analysis technique used in this study is an interactive model of data analysis in analyzing the data carried out in three ways: data reduction activities, data presentation, and also data conclusions. as well as parents. These results and discussions describe various issues related to cognitive development problems, such as several barriers to children's activities and activities that impact children's cognition during the COVID-19 pandemic in Pangkalan Kurias District, Pelalawan Regency, Riau Province. In conclusion, this study aims to describe the cognitive development of early childhood during the COVID-19 pandemic and provide views regarding several activities that can be internalized to stimulate children's cognitive development.

Keywords: Cognitive, Early Childhood, Covid-19 Pandemic

Introduction
Every individual creature has stages and developments in life starting from the womb until the time of giving birth to the world; every child born into the world has rights and obligations that must be fulfilled by parents and the family environment towards several essential aspects that must be a point of attention for parents—the only cognitive development of children. An essential aspect of the development of elementary school-age children is the mental aspect (Nauli Thaib, 2013). Cognitive development is closely related to thinking skills, such as reasoning, memory, and solving practical problems. Cognitive development will impact children's psychological and emotional development and language skills. Attitudes and behaviors of early childhood are also related to children's ability to think logically. Therefore, cognitive development can be interpreted as the key to non-material development. The cognitive mindset of early childhood is very much different from people who are teenagers and adults or even children who are in middle school and above. Elementary school-age
children have limitations in thinking abstract things, such as when children aged 7-9 years are asked about the earth’s shape (Winarsih & Windi Wahyuni, n.d.).

Early childhood will find it complex or confusing to answer these questions scientifically. If forced, they will feel pressure because their cognitive abilities have not yet reached the stage of complex thinking. Cognitive development plays a vital role in the level of intelligence in children, as now problems have arisen in recent times where Covid-19 has caused a significant impact on the world of children's education in Indonesia and other countries, with conditions that require children to keep their distance. In interacting with people around and in government regulations also need children to study at home with their parents. This issue is unusual and is the first thing for Indonesia to face the current situation and conditions. Therefore, various changes in the education system make teachers and parents work and think extra creatively in stimulating various developmental problems with existing conditions. Children's cognitive development will be hampered during this covid-19 pandemic if parents cannot produce it sprucely, children feel bored with the same games, and with closed children's conditions in an indoor scope such as at home (Arifin, 2016).

Development possessed by early childhood. Cognitive development is also included in the developmental aspects that must be stimulated during learning activities. Cognitive development is closely related to thinking, describing intellectual training, and knowing, understanding, and remembering things. Cognitive development is determined by the individual and is also influenced by the surrounding environment, especially during the covid-19 pandemic. Children will spend more time studying and playing at home with their parents. Therefore, parents also play a vital in developing cognitive abilities in early childhood (Kahfi, 2021).

The emergence of Covid-19 caused various problems in the field of education, namely the shift of learning activities from face to face to online remotely, this is; by the circular letter of the minister of education and culture No. 4 of 2020 concerning the implementation of the distance learning process using an online system. Learning applied to children is carried out at home during the COVID-19 pandemic. This is done because early childhood is an individual figure who is still unstable and has a happy soul to gather together with his peers to allow two of the virus. During the COVID-19 pandemic, parents at home have obligations to their children's education and develop children's cognitive abilities; parents can develop; parents’ cognitive abilities with various skills such as teaching children to count, recognize various forms, conducting simple experiments, and various kinds of things. Ways that can stimulate children's cognitive development (Apriliyani, 2020).

As long as the shift in home-study policies during the COVID-19 pandemic has resulted in changes in learning activities carried out in early childhood education units, this will also have an impact on early childhood cognitive development. Departing from these problems, researchers are interested in researching early the cognitive development of early childhood during the COVID-19 pandemic and the parents’ cognitive strategies during the COVID-19 pandemic? Based on the formulation of the problem above, this study aims to describe the cognitive development of early childhood during the COVID-19 pandemic.
Literature Review

Early Childhood Cognitive Development

Generally, early childhood is never separated from human life and is never left behind from the center of attention, especially in every aspect of development possessed by early childhood; in general, in Indonesia itself, the stage of child development starts from 0-6 years. Early childhood is a child experiencing rapid development called the golden age; this age is the most valuable compared to the ages to come. Biechler and Snowman believe that early childhood is children aged between 3-6 years, and the essence of early childhood is a unique individual with diverse growth and development patterns (Roha 2020). Physical development is stimulated through sports activities, language, emotional, social, religious, moral development, sexual development, etc. As parents, we must be able to understand as much knowledge as possible and be able to stimulate children's development, especially during the covid pandemic; working hard to improve the development and potential of children from an early age is one of the preparations to live and adapt to the environment. Based on Biechler and Snowman that early childhood has a unique soul and various interesting characters to be stimulated. These multiple activities can be done to stimulate children's development during the covid-19 pandemic:

a. Play with kids

Spending time playing with children certainly positively affects children's development. For example, role-playing when children play alone and play with their parents will be very much different levels of happiness felt by children when children interact with parents in a game children feel valued. It is considered that their presence and increasing self-confidence in socializing, automatically aspects of language development, cognitive and social-emotional can be fulfilled not only obtained through the process of playing at school but this can be obtained when the child is at home. (Trisnawati & Sugito, 2020).

b. Involve children in every activity

During the quarantine period of the COVID-19 pandemic, parents can do many activities, ranging from housework such as cooking, washing, cleaning the bed, folding clothes, and various other activities involving children when they want to fold clothes or clean the bed. Children's enthusiasm when helping their parents positively impacts their development, such as cognitive and physical motor skills. Children will get new experiences that are not found at school.

Children's Cognitive According to Jean Piaget

Jean Piaget stated that the development that occurs in children builds children's cognitive abilities through several activities and actions that are motivated by the surrounding environment. Piaget also focuses on organizing children and learning from the understanding that they can depart from the explanation of Jean Piaget's theory that children's cognitive development has a strong relationship between experiences and environmental activities obtained by children (Anggraini & Suyadi, 2019). The various stages of development that occur
in early childhood, first, namely (sensorimotor stage) in this phase lasts from the early stages of the child being born until the child turns two years old, in this phase the child forms an understanding of the world which then correlates to the five senses or physical motor like seeing, hearing and speaking.

Furthermore, the second stage, e according to Piaget, is the (pre-operational stage) where at this stage, the child reaches the age of 2-7 years, the child begins to connect various symbols such as drawing and expressing about the universe. The concrete operational stage, which occurs between 7 and 11, is Piaget's third stage. At this stage, early childhood can think logically (formal active setting). While ages 11 to 15 years is Piaget's fourth and final stage. At this stage, the child explores the real world, concrete experiences, and thinks abstractly and more logically; at this stage of development, the child can understand the characteristics of the individual's nature and see the beauty and satisfaction of his talents. (Nurdiani, 2013)

From Piaget's understanding, we can conclude that children's cognitive development has various stages and processes according to the child's age level. Children can (Srianis et al., 2014) think and can carry out multiple activities that cannot be separated from the views adopted from the surrounding environment, which have a significant correlation from various aspects of development that exist in the child. (Nurdiani, 2013).

Methods

The method in this research is descriptive qualitative research. The subjects in this study were early childhood aged 4-7 years who studied at the PAUD level, namely 15 children in Pangkalan Kuras District, Pelalawan Regency, Riau Province. The data collection technique used in this research is by collecting various kinds of information through in-depth interviews with parents and observing the activities carried out by children during the COVID-19 pandemic. The documents collected by the researchers are documents related to the activities carried out by the researcher. The data analysis technique in this study is interactive model data analysis; in analyzing the data, the researcher uses three stages consisting of data reduction activities (Data Reduction), data presentation (Data Display), and drawing and testing conclusions or Conclusion Drawing/Verification (Novitasari et al., 2018).

Result/Findings

This study aimed to describe the cognitive development of early childhood during the COVID-19 pandemic. Based on the results of this study, it can be seen that parents are an educational institution that is non-formal and, most notably for children, where children will live and develop within the scope of the family. From the education obtained in the family, children will get experience, habituation, skills, and various kinds of knowledge and cognitive. Therefore, during the COVID-19 pandemic, parents must be creative in creating safe, comfortable, fun, and not dull for children; the learning must also be adapted to the child's level of development in terms of cognitive and motor, language, and social-emotional development.
From several interviews that have been conducted some time ago regarding the cognitive development of early childhood aged 4-7 years, the researchers attach several parts, including:

**Subject I**

**Child data 1**

<table>
<thead>
<tr>
<th>Name</th>
<th>Zyan Faiha Khairin</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female gender Parents’</td>
<td>Indus</td>
</tr>
<tr>
<td>Mother</td>
<td>Khairul</td>
</tr>
</tbody>
</table>

Faiha is the first child of two of Faiha's siblings. Faiha attends Al-AZHAR Kindergarten in Pangkalan Kuras sub-district, but due to the pandemic in recent years, Faiha has not attended school. Alone and can't meet her friends, which causes Faiha sometimes to cry and get bored at home; paren; parents impact children's development, especially cognitive development, because Faiha is not motivated to learn when not with her friends.

**Subject II**

**Child data 2**

<table>
<thead>
<tr>
<th>Name</th>
<th>Forza</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female gender Parents’</td>
<td></td>
</tr>
<tr>
<td>Mother</td>
<td>Sapri</td>
</tr>
<tr>
<td>Father</td>
<td>Ani</td>
</tr>
</tbody>
</table>

Forza is the second child of two siblings, four years old Farza, who attends Al-AZHAR Kindergarten in Pangkalan Kuras sub-district; during the covid pandemic, Farza and his parents spent more time playing with their family, Ani's mother explained related to Farza's cognitive development during the pandemic period it was pretty well, even though Farza rarely meets his friends, Forza is also proactive when he is alone, which is also inseparable from the role of the mother and father who always invites Ani to play actively, just like when she was at school.

**Subject III**

**Child data 3**

<table>
<thead>
<tr>
<th>Name</th>
<th>Fatih</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female gender Parents’</td>
<td></td>
</tr>
<tr>
<td>Mother</td>
<td>Evi</td>
</tr>
<tr>
<td>Father</td>
<td>Safrizal</td>
</tr>
</tbody>
</table>
Fatih is the third child of Evi's mother and Safrizal's mother, who is five years old; Fatih attends Al-AZHAR Kindergarten in Pangkalan Kuras sub-district, from the results of information obtained regarding cognitive development during the covid pandemic, Fatih plays gadgets more often than playing educational activities such as blocks, number cuttings, etc., during the pandemic, Ibu Evi said that Fatih often cries if she is not given a gadget, this has a significant impact on children's cognitive.

Subjek IV
Child Data 4

<table>
<thead>
<tr>
<th>Name</th>
<th>Viola</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female gender Parents'</td>
<td></td>
</tr>
<tr>
<td>Mother</td>
<td>Anti</td>
</tr>
<tr>
<td>Father</td>
<td>Ika</td>
</tr>
</tbody>
</table>

Viola is six years old, the eldest of two siblings; during the covid pandemic, her parents found it difficult to provide education to viola, such as when told to learn to count, viola preferred to watch tv and ignore it, besides that viola also spent a lot of time playing gadgets. Violas's parents said this pandemic is challenging for education development if parents cannot give full attention to their children, making it even more difficult for them to be stimulated.

Subjek V
Child Data 5

<table>
<thead>
<tr>
<th>Name</th>
<th>Keyla</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female gender Parents'</td>
<td></td>
</tr>
<tr>
<td>Mother</td>
<td>Siati</td>
</tr>
<tr>
<td>Father</td>
<td>Jalaludin</td>
</tr>
</tbody>
</table>

Keyla is the second of two children who attend SDN 007, Keyla is in grade 1, but Keyla studied at home during the pandemic. According to Atti's mother, cognitive development was very influential during the pandemic because studying was crucial. Less, and parents said that their parents planned to give tutoring to Keyla.

Based on the description above, the researchers conveyed the results of observations that occurred, one of which was on cognitive development problems that happened during the covid pandemic; most of the results gave the view that the role of parents was needed in developing cognitive development, parents must be proactive about the products required by their children. In addition to teachers who provide study visits, people must also fully motivate
children so that excellent cooperation significantly impacts children's development during the COVID-19 pandemic.

Discussion

During the COVID-19 pandemic, parents play an active role in making various kinds of activities that are fun and certainly not dull for children, one of which is creating a safe and comfortable learning atmosphere for children so that children's cognitive development can still be achieved even though learning is not carried out regularly. Face to face with the teacher at school. Research conducted by researchers related to the cognitive development of early childhood during the COVID-19 pandemic is a type of research that has never been done before. The previous studies discussed the role of parents in improving the cognitive abilities of early childhood, in which parents became the center of research. At the same time, the focus of this research is more on the cognitive development of early childhood during the COVID-19 pandemic. However, in terms of the direction of the study studied by the researcher with previous research, they have similarities, namely studying and researching the cognitive development of early childhood.

Creating a comfortable and fun learning atmosphere is one of the most effective activities to develop early childhood cognitive during the covid-19 pandemic. With these activities, children and parents can establish good interaction relationships. In developing children's cognitive, parents can make the implications of this research are expected to be a source of knowledge for parents and other researchers in developing early childhood cognitive during the COVID-19 pandemic. The results in this study can also be used as a reference and solution for parents or other researchers in developing early childhood cognitive during the COVID-19 pandemic. For parents, this can be used as material to improve the implementation of activities to stimulate children's cognitive development in the future. It is expected to be a development material for further research for the researchers themselves.

This research collects data in the field, where researchers try to dig up information through interviews with parents and observing activities carried out by children and documentation. It's just that the observations made by researchers have limitations; this is due to the difficulty of researchers in getting data because parents are busy at work, so they don't have much time to accompany their children. Cognitive abilities of early childhood during the covid-19 pandemic include the following: First, understand what to do in certain situations. Second, retell what the child has experienced in the learning process. Third, correctly name the objects around him or the things in an image (Susanto & Psi, 2005). Fourth, try to read the writing even though it is only based on pictures. Fifth, be able to understand simple concepts such as front, behind, opening and closing, very much and very little in its implementation, this activity can be carried out even though there are some obstacles The obstacles that arise are due to the busyness of working parents, so there is a lack of time to stimulate children's cognitive development. The next obstacle is the children's lack of interest in learning and playing with their parents (Syaodih, n.d.).
Early Childhood Cognitive Development During the Covid-19 Pandemic

The existence of the COVID-19 pandemic has had an impact on changes in the education system; learning activities that are usually carried out in schools face-to-face are now turning into offline or distance learning. Online learning is done by utilizing zoom, google classroom, WhatsApp, etc. In addition, to monitor learning activities at home, teachers consult with parents using video calls and photos of children's activities while studying at home. This is done to prove that there has been interaction between children, parents, and teachers. By doing learning using various media, early childhood does not feel bored or feels less cared for so that their cognitive will continue to develop according to their abilities.

Cognitive children must be nurtured and stimulated from early childhood; this is done to understand the various symbols in the surrounding environment; children will try to solve more manageable problems that occur in their lives. With this, the child will become a more independent person. Early childhood students who have studied at PAUD schools have the opportunity for their cognitive development to be four times higher than that of early childhood children who have not attended school to PAUD level (Roha, n.d.).

The following are some of the cognitive abilities of early childhood during the COVID-19 pandemic, including the following: 1). It understands what to do in certain situations, 2). Give the exact name of the objects around him or the things in a picture, 4). Trying to read the writing even if only based on views, 5). Understand simple concepts such as in front, behind, open and close, a lot and a little (Hewi&Asnawati, 2020).

The goal of cognitive development is oriented to children's thinking skills related to more spartan intellectual abilities, namely the ability to remember, solve various problems that require children to connect and combine multiple ideas, ideas, methods, or procedures that the child learns in solving multiple issues. At the same time, the cognitive domain is a domain that includes mental (brain) activities. The cognitive part is closely related to thinking, memorizing, applying, analyzing, and evaluating (Maryani, 2020).

One of the goals of learning in early childhood is to stimulate cognitive development so that children can position themselves in their environment and have preparations to enter the story to the next stage. Early childhood cognitive development includes 1). Problem-solving exercises, 2). Able to reason, 3). Think logically, 4). Symbolic thinking. Factors that affect the cognitive development of early childhood are the environment in which there is a school environment. During the current pandemic, almost all schools carry out learning activities using an online system to affect children's cognitive development (Yulianingsih et al., 2020). Logical thinking is part of cognitive development that aligns with the purpose of education for early childhood, namely so that children can think logically in their daily lives. In living everyday life, children will always think logically because logical thinking supports successful actions in making decisions (Khasanah, n.d.).

During the COVID-19 pandemic, teachers carry out two main tasks, namely as planners and providing assessments of early childhood development, while parents have a role as implementers of learning by using the conversation method, question and answer, and example that invites children to understand why you have to go to school at home, why do you
have to wear a mask when you leave the house, and why you can't play outside the house. Applying these strategies can make children know the cause and effect of indicators of cognitive development achievement in the scope of logical thinking (Fitriana, 2018).

Symbolic thinking is one of the elements of cognitive development that every individual must possess; according to Piaget, thinking metaphorically is the ability to think about objects and events even though the things and events are not present in front of children. Children's symbolic thinking skills usually occur at the age of 2–7 years, and this period is commonly referred to as the pre-operational stage. Symbolic thinking belongs to the location of knowing the concept, and the idea must be studied so that children can learn and understand a particular object (Syaodih, 1998). However, it is not based on something real; the concept is significant for children to learn because later it will be a provision for children in living the next life. Children's symbolic thinking skills will be seen when using various symbols, pictures, and numbers. In this case, parents use story-telling activities carried out online, inviting children to listen to videos and understand the material. Next, parents ask their children to discuss what they have heard. From the activities carried out by children and parents during this pandemic, the ability to think symbolically increases; namely, early childhood can name various kinds of objects according to their functions. The strategy given by parents in developing early childhood cognitive during the COVID-19 pandemic is carried out as an effort to increase children's growth and development. Parents can do various ways in developing cognitive in children, including creating a comfortable learning atmosphere, providing explanations about learning materials that have been provided by teachers at school, inviting children to ask questions and answers, and so on. Parental attitudes that can support early childhood cognitive development include 1). Respect every child's opinion, 2). Provide opportunities for children to think, reflect and fantasize, 3). Provide opportunities for children to make their own decisions, 4). Stimulate children to ask a lot of questions, 5). Convincing children that parents appreciate what they want to try, do, and produce 6). Encourage and support activities carried out by children, 7). They enjoy being together with children, 8). always give praise or appreciation to children, 9). They are motivating children always to be independent, 10). Maintain good cooperative relationships with children (Iswantiningtyas, 2021).

Parents play a vital role in instilling the educational process in their children so that they are ready to accept various challenges from the community and family environment. The role of parents in the cognitive development of children is vital and must be done because parents are the most important educational foundation for children. In improving children's cognitive development during the COVID-19 pandemic, parents provide learning concepts that can hone children's abilities to understand objects and images in the surrounding environment. Parents also prepare media that children will use. (Nur et al., n.d.) development in children during the COVID-19 pandemic, the results that parents understand are emotional, social, language, art, cognitive, religious, and moral development, as well as motoric. Parents also have a vital role in developing children's cognitive abilities, including always
accompanying children when doing assignments, explaining and explaining in easy-to-understand language, and always motivating children. (Khadijah, 2016).

During the COVID-19 pandemic, so that learning is not dull and children's cognitive is still achieved, parents are as creative as possible to create a fun learning for children, as is the case with the learning environment. A fun learning environment will be more effective for early childhood learning. The setting of the learning environment that parents must know is the suitability of the learning environment with the level of child development, both in aspects of cognitive, motor, language, and social development conducive learning environment can motivate and assist children in developing their cognitive skills such as experimenting, exploring, and manipulating game tools or objects used by children to play and study at home during the COVID-19 pandemic.

Conclusion
From the research results in the field, it can be concluded that as long as children study at home during the COVID-19 pandemic, early childhood cognitive development can still be achieved. The achievement of children's cognitive development cannot be separated from the cooperation of various parties, namely teachers who can adapt to using information technology during the teaching and learning process, children who are always enthusiastic about learning at home, and parents who are always loyal in accompanying children. In addition, parents play an active role in creating fun learning media to attract children's interest so that the child's cognitive will still be achieved. -19 can be new material for the family environment in stimulating children's cognitive development during the covid-19 pandemic. Furthermore, the drawback of this research is the difficulty of researchers in obtaining data in the form of interviews, observations, and documentation. This is due to the busyness of parents at work, so that there is a lack of time to stimulate children's cognitive development. The next obstacle is children’s lack of interest in learning and playing with parents.

References


