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# The Impact of Effective Communication and Cognitive Development on Early Childhood Language Development

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## Abstract

This study aims to analyze the impact of effective communication and cognitive development on early childhood language development. The research design used is quantitative with an experimental research design, namely a quasi-experiment. The research sample consisted of 60 children: 30 children in the experimental group and 30 children in the control group. Data collection techniques are performed using performance tests and analyzed using normality tests, homogeneity tests, and two-way ANOVA tests. The results showed that the results of the data analysis obtained a value of  $0.001 < 0.050$ , which indicates a significant influence between effective communication and cognitive development on early childhood language development. In conclusion, there is an the impact of effective communication and cognitive development in early childhood language development

**Keywords:** Effective Communication, Language Development, Early Childhood

## 1. Introduction

Education in early childhood is very important for children from birth onwards. Early childhood growth and development needs to be directed at laying the right foundations for full human growth and development (Sutrisno et al., 2021). Early childhood education has a very important role in providing the right stimulation to optimize children's brain development and intelligence. Early childhood education aims to develop various potentials of children from an early age as a preparation for life and can adjust to their environment (Ariyanti, 2016). Early childhood education is a level of education before the level of basic education which is a coaching effort aimed at children from birth to 6 years of age which is carried out by providing educational stimuli to help physical and spiritual growth and development so that children have readiness to enter further education (Jaoza & Kanda, 2024). The importance of Early Childhood Education for child development states that in the age range of birth to 6 years children experience a golden period which is a time when children begin to be sensitive / sensitive to receiving various stimuli.

The learning process in early childhood education institutions is generally carried out face-to-face in the classroom. This is because in the early childhood learning process still requires direct teacher guidance, because the teacher

is the implementer and guide of the learning process in the classroom (Simmie & Murphy, 2023). In addition to providing convenience in implementing the learning process, children who learn directly in the classroom have more opportunities to choose various activities, which can then stimulate increased achievement of children's cognitive development (Veen et al., 2021). So, the classroom is an environment that supports children's growth with the assistance of teachers, while at home is full of parental supervision. The home environment also plays an important role in children's language development (Ronfani et al., 2015), (Sethna et al., 2017). Thus, parent-child interactions play a strategic role in optimizing children's language development in the first five years of life. Therefore, stimulating children's language development requires parental involvement at home. At school there are teachers and at home there are parents, all playing a complementary role in improving children's language development.

At this time it is very necessary to have support from other people outside the students, namely parents and early childhood education teachers, because in early childhood to train and develop children's abilities or skills cannot be developed independently. The need for support from the closest people such as parents and teachers by always communicating intensely to accompany the learning process and develop their skills. By familiarizing good communication in early childhood with parents or teachers, effective communication will be established between them. In early childhood education, communication is important to help children build academic skills and confidence in learning (Velentzas & Broni, 2014). One type of communication that is often used in interactions in early childhood education classrooms is formal or informal face-to-face oral communication (Bubikova-Moan et al., 2019). The importance of effective communication in early childhood with parents and teachers. Children learn to express thoughts, feelings and information through communication (Gooden & Kearns, 2013). Parenting by parents greatly influences children's cognitive development (Finocchiaro, 2016).

In early childhood, cognitive development is very important to get attention and stimulation in themselves because it is closely related to other aspects of development (Veronica, 2018), such as aspects of language and psychosocial development (Sa'ida, 2018). If a separate part of cognitive is well developed, then other aspects of development will also develop optimally. The role of parents in the learning and playing process can also have an impact on optimizing cognitive development in children (Novita, 2018). The relationship between language and cognitive basically lies in the assumption that language affects the way humans view the world, and affects the minds of individuals who use the language (Hadziq, 2015). The link between the two is possible because cognitive is an attempt to associate words or concepts to get a conclusion through language media. By paying attention to this cognitive development, one of them can develop children's language which is very necessary for a child. This cognitive development must always be maintained so that language development also remains along with the changing of the child.

From the perspective of cognitive development, language development is an aspect that must be present in early childhood. In fact, many young children still have difficulty in capturing or digesting work instructions given by teachers and parents. Language development in early childhood has a very important role because this phase is a critical period where children experience a surge in their ability to understand, use and communicate with language (Deiniatur, 2017). Early childhood education has the main function of developing all aspects of child development, including cognitive, language, physical (gross motor and fine motor), social, and emotional development (Nagai, 2019). Language learning in early childhood should be done in situations that allow children to be actively involved, get real examples, get opportunities and responsibilities, practice and estimate, and get appropriate responses from adults. Children need to see and hear the correct use of language in everyday situations, both from adults and peers. This is supported by the opinion that the importance of language especially for children in early childhood education, because effective language use gives children the power to say what they want and need. This is very important for early childhood development (Obiweluzo & Melefa, 2014). As children learn to compare, sort, count, estimate, classify, measure, and even share explanations with others in their learning activities, the process of these skills going into math, language, and technology is expected to happen in the early childhood world (Dejonckheere et al., 2016).

Therefore, the role of effective communication and children's cognitive development is very necessary to be considered and maintained so that continuously during child development, it is expected to have a positive impact

on children's language development. Because effective communication from parents and teachers supported by good cognitive development will also provide positive results in early childhood language development. Based on the explanation above, this study aims to determine the impact of effective communication and cognitive development on early childhood language development.

### *1.1 Effective Communication*

Communication can be defined as the procedure of sending information from one person to another. Communication is the process of conveying a statement, idea, or information by one person to another. Communication is defined as the sharing of ideas, sentiments, intentions, expectations, perceptions, or commands between two or more individuals by voice, writing, gestures, or other methods (Pal et al., 2019). Communication is an act by which a person known as the sender provides information to another person known as the receiver based on that person's needs, desires, knowledge, opinions and perceptions (Razak et al., 2019). Communication is very important in building relationships by communicating with others.

It is important to create effective communication to increase understanding for the recipient of the message so as to create a good relationship and personal bond. Effective communication is essential in interacting with young children. Communication plays an important role in child development. Through communication, children can express their feelings, desires, and socialization attitudes. The purpose of communication is to influence the thoughts, attitudes, or actions of others. In intentional communication, a person intentionally conveys a message to another person with a specific purpose. The message conveyed can be information, instructions, opinions, or other statements. This intentional communication can be done through various media, such as oral, written, or through electronic media. In addition, communication must also bring about change. Someone with good communication skills has the potential to influence others, and an effective communication strategy will encourage someone to achieve success (Duță et al., 2015).

Effective communication is the exchange of information, ideas and feelings from one party to another. This results in a change in attitude so that a good relationship is established between the messenger and the recipient of the message (Fallah, 2014), (Mahdi, 2014), (Derakhshan et al., 2015). effective communication is a two-way process that involves sending and receiving relevant information among team members (Bhatti & Ahsan, 2017). The purpose of effective communication is actually to make it easier to understand the messages conveyed between the informer and the recipient of information so that the language used by the informer is clearer and more complete, and can be understood and understood properly by the recipient of information (Hanum, 2017). Effective communication in schools is absolutely necessary considering that everything that is done must go through an agreement in deliberation (Lubis et al., 2023), (Mesiono et al., 2023).

There are two types of communication, namely verbal communication and nonverbal communication. Verbal communication involves the use of words, sentences, and conversation. It involves the use of language to convey messages and communicate with others. Nonverbal communication, on the other hand, involves the use of body language, facial expressions, gestures, and eye contact. It also includes the use of gestures and touch to convey messages. The communication pattern established between parents and children will affect the development of the child's psyche and mindset. The communication process includes both verbal and non-verbal components designed to mediate between educators and learners (Muste, 2016).

### *1.2 Cognitive Development*

Children's cognitive development involves progressive learning processes, such as attention, memory, and logical thinking. These abilities are important so that children can process information, learn to evaluate, analyze, remember, compare, and understand cause-and-effect relationships. Cognitive (psychic) abilities are the highest functions of the brain. These abilities include comprehension, thinking, spatial orientation, learning, speaking, etc. The development of cognitive abilities is determined by the development of memory and attention (Zakharova et al., 2020). Cognitive development in children covers various aspects, including information processing ability, memory, problem solving, and abstract thinking ability. As they grow older, children experience significant

cognitive development, which involves changes in their brain structure and cognitive function (Nasution et al., 2023).

According to Piaget, there are several stages of cognitive development that occur during childhood through adolescence. These stages include sensory-motor (0-2 years), pre-operational (2-7 years), operational (7-11 years), and formal operational (11 years-adult). At preschool age, children play an active role in their own cognitive development, especially in terms of understanding, explaining, organizing, manipulating, constructing and predicting. During the process of moving from one stage to the next, children's cognitive abilities change qualitatively (Sigelman & Rider, 2012). Piaget also believed that cognitive development is a continuous process and all children, even in the context of different environments and cultural diversity around the world, have the same sequence of cognitive development (Hockenbury & Hockenbury, 2010).

Based on Piaget's theory during the sensorimotor stage, there are three important developments that occur. First, by 18 months of age, children can express a limited vocabulary, and by two years of age, they can express short, meaningful sentences. Second, children at the end of the sensorimotor stage develop their capacity to imitate others. Deferred imitation is the ability to reproduce the activities of a model that has been witnessed in the past. The last stage, children imagine and represent symbols relatively (Babakr et al., 2019). An important concept of Piaget's cognitive development theory is the steady progression from one stage to another. Piaget viewed cognitive growth as progressive change. Growth varies from person to person. Piaget assumed that it follows a fixed sequence (Pakpahan & Saragih, 2022).

Cognitive development is a broad concept that involves the maturation of a variety of abilities and is defined by the American Psychological Association, as "the skills involved in performing tasks related to perception, learning, memory, understanding, consciousness, reasoning, judgment, intuition, and language" (Rollè et al., 2019). Cognitive development is a complex and diverse set of mental abilities. In children, this process tracks the development of areas such as reasoning, memory, problem solving, learning and knowledge representation. The optimal level of cognitive development depends on classic achievements in thinking, language, and understanding as seen in children, especially from a well-off environment (Ekholuenetale et al., 2020). In other words, an individual's cognitive abilities will increase gradually from birth through the child's interaction with his or her environment.

Cognitive development in early childhood involves the development of thinking, attention, memory, and problem solving, all of which help children to understand the world around them (Alam et al., 2020). The cognitive development aspect is closely related to the child's ability to think in receiving, processing, and understanding something. Characteristics of cognitive abilities of children aged four and five years include the ability to count and feel four or more objects, recognize some numbers and letters, and sort numbers up to ten (Guez et al., 2021). Another opinion explains that children's cognitive development is an important aspect of learning, because understanding how children think and learn can help develop effective learning approaches (Rhamadanty, 2023).

### *1.3 Language Development*

Language development in children involves their ability to symbolize thoughts and feelings and convey meaning to others receptively and expressively (Kurniawati, 2014). Language development is a complex process that depends on several mechanisms that are partly intrinsic to the child (e.g., the capacity to share attention and learn linguistic patterns) and partly extrinsic to the child (e.g., the context in which language is learned), and these mechanisms interact with each other (Smith, 2013). Language is the primary means of communication that enables children to interact with the world around them and with other people. The process of learning language in children involves understanding sounds, words, grammar, and speaking skills that become more complex with age (Devianty, 2017).

In early childhood, communication is closely related to language development. Language development in early childhood has started since the child was born. It is not as easy as mastering spoken language which is a natural process. Children's language development starts from a simple level and progresses to a more complex level along

with their understanding. Language as a means of human communication is acquired from birth to the age of five, known as language acquisition. In addition, language is a means to formulate intentions, generate feelings and allow us to organize and create social activities, as well as plan and direct the future (Afifah, 2018). It is expected that teachers can identify children's developmental needs and strategies by knowing the stages of language development in children. When young children engage with adults, they learn the language that adults speak. Adults take the initiative and respond by listening, understanding, fostering, modeling (Naldi, 2018).

Language is the main tool for humans to communicate with each other. Stimulation of language skills in children has an important role in their language development (Yafie, 2017). There are four children's language abilities, starting with listening, namely understanding command words, such as repeating more complex sentences, mentioning adjectives, the second is speaking, namely answering more complex questions, telling causes and effects, mentioning objects around them, the third is reading, mentioning symbols of letters and numbers, regarding the initial letter syllables of the names of objects around, connecting pictures of objects, and the fourth is recognizing symbols, being able to write letters and numbers, writing one's own name (Batubara, 2023). Therefore, language development is a very important aspect in the development of children's basic abilities, especially in the development of spoken language. Communication built with children must have a meaningful context to understand the meaning they want to convey while increasing their vocabulary.

School is one of the many contexts where language is learned and children's language development benefits from attending school. Schools provide a conversational environment for children to practice various language functions, such as analyzing, reflecting, reasoning and justifying, to achieve their communicative goals (Hoff, 2006). Thus, schools provide a rich language learning environment. A rich language learning environment has physical characteristics such as materials that encourage creativity, problem solving, and that can serve as tools for play (Prins et al., 2023). Thus, schools are expected to be a place where children's language improvement is even better with full guidance and supervision from teachers.

Children learn language through interactions with the adults around them, such as through conversations, questions and stories. The more language a child hears, the faster the child's vocabulary grows. Language development is one of the scopes in the formation of behavior in children because most of the patterns of language development in children are obtained from conversational interactions, and or dialogue with others. In addition, through these activities, children are expected to obtain language models, expand the scope of expressive vocabulary, and become a motivation for children when interacting with others or in social life. This is because language development is always related to the social context of society (Fia et al., 2020). Language skills in early childhood consist of understanding receptive language, expressing language and literacy. Storytelling is one form of language ability in early childhood (Etnawati, 2022). Through storytelling children are able to express language, the ability to think and interact with others. Children's language skills can also be seen from the extent to which children have the ability to tell stories to others.

## 2. Method

This research uses a quantitative approach with experimental research. The experimental research in this study aims to investigate the effect of two independent variables simultaneously on one dependent variable. The experiment involves two classification bases, namely the first independent variable and the second independent variable and one dependent variable. The first independent variable is effective communication and the second independent variable is cognitive development.

The research subjects amounted to 60 kindergarten children, divided into two groups, 30 children in the experimental group and 30 in the control group. The experimental group applied the effective communication approach and the control group applied the usual approach. The data of this study were collected using performance and performance tests. The data were then tested with normality test, homogeneity test and two-way ANOVA test.

### 3. Results

After passing the normality test and homogeneity test, the analysis results showed that the data were normally distributed and homogeneous. Then proceed with testing the hypothesis with the two-way anova test as follows:

Table 1: Descriptive Statistics Results

<b>Descriptive Statistics</b>				
Dependent Variable: Language Development				
Approach	Cognitive	Mean	Std. Deviation	N
Effective Communication	Low	56,2500	6,29153	4
	Medium	63,0357	2,43740	14
	High	74,3750	2,41327	12
	Total	66,6667	7,40845	30
Conventional	Low	57,4727	6,61500	11
	Medium	62,9273	8,73832	11
	High	60,6250	10,06674	8
	Total	60,3133	8,45930	30
Total	Low	57,1467	6,32860	15
	Medium	62,9880	5,91920	25
	High	68,8750	9,40587	20
	Total	63,4900	8,50959	60

Table 2: Result Between-Subjects Factors

<b>Between-Subjects Factors</b>			
		Value Label	N
Approach	1,00	Effective Communication	30
	2,00	Conventional	30
Cognitive	1,00	Low	15
	2,00	Medium	25
	3,00	High	20

Table 3: Estimated Marginal Means

<b>Approach * Cognitive</b>					
Dependent Variable: Language Development					
Approach	Cognitive	Mean	Std. Error	95% Confidence Interval	
				Lower Bound	Upper Bound
Effective Communication	Low	56,250	3,170	49,895	62,605
	Medium	63,036	1,694	59,639	66,433
	High	74,375	1,830	70,706	78,044
Konvensional	Low	57,473	1,912	53,640	61,305
	Medium	62,927	1,912	59,095	66,760
	High	60,625	2,242	56,131	65,119

Table 4: Two-way Anova Test Results

<b>Tests of Between-Subjects Effects</b>						
Dependent Variable: Language Development						
Source		Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model		2101,791 <sup>a</sup>	5	420,358	10,458	,000
Intercept		197292,458	1	197292,458	4908,263	,000
Effective Communication		224,376	1	224,376	5,582	,022
Cognitive		827,469	2	413,734	10,293	,000
Effective Communication * Cognitive	*	625,543	2	312,772	7,781	,001
Error		2170,583	54	40,196		
Total		246131,180	60			
Corrected Total		4272,374	59			

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a. R Squared = ,492 (Adjusted R Squared = ,445)

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Based on the table above shows the Sig value. (2-tailed) of 0.01 on cognitive factors and effective communication approaches which means  $0.01 < 0.05$ . So it can be concluded that there is an interaction between the effect of effective communication and cognitive development on language development in early childhood.

#### 4. Discussion

Based on the results of data analysis obtained that there is an interaction of effective communication cognitive development affects the development of early childhood language. These results have in common with previous research that parental communication patterns are very influential on early childhood cognition (Rozana et al., 2019). Other research explains that parents' interpersonal communication patterns on children's cognitive development show that effective relationships between parents and children can affect children's cognitive development (54). Other research results mention a significant influence between parental verbal communication and children's language development (Susilia & Usman, 2021). The results showed that there is an effect of effective communication in center learning on language development in early childhood. Effective communication can affect language development in early childhood (Musrifah, 2021). The results of other studies state that there is an effect of communication (nonverbal parents) on children's language development (Reni et al., 2021). The results of other studies state that effective communication has a positive effect on children's language skills (Nuraeni et al., 2023).

Effective communication is communication that occurs between the source and receiver of a message using verbal or nonverbal forms whose intent can be noticed and understood by the recipient. Effective communication can be done if you have effective language skills as well, speaking in a language that is easy to understand, the ability and willingness to listen to what children express, understand, children's feelings, as well as attitudes and behaviors that can be an example for children. If this is done, children will undoubtedly feel comfortable, protected, valued, cared for and can develop optimally according to their potential (Simanjuntak et al., 2024). Communication in early childhood education is a process of relationship between educators and students, in learning children will always communicate with the teacher, by conveying information or messages so that there is feedback between educators and students. Effective communication patterns can improve close relationships between children and parents, children and educators and make them feel happier and more valuable because of emotional support (Ilmi, 2023).

Children's language initially develops naturally. this process is known as language acquisition. Through interaction with the environment, children gain experiences that contribute to their language development (Bahri, 2018). and will continue to develop as the child grows and the child's communication environment will indirectly add to the language he acquires. Communication has an important role in children, so that children are able to build and develop social-emotional intelligence, language, cognitive, self-confidence, learn from the surrounding environment, distinguish right and wrong, establish family relationships, means of solving problems, and recognize the existence of God (Nurannisa et al., 2023).

Cognitive development and language development together support each other as the child grows. Both complement each other and complement each other. The relationship between language and cognitive in children will always be one part, where one with the other is complementary and cannot be separated as an influence on both (Hadziq, 2015). This elementary school age is a period of rapid development of the ability to recognize and master vocabulary (Mardison, 2016). Language develops rapidly during the early pre-operational years (2-4 years). Through language, they can relive the past, anticipate the future, and communicate events to others. However, because young children's minds are developing so quickly, they are not yet able to have coherent logical properties. This is seen in their use of words. Because children lack general categorization, their reasoning is often transductive, moving from particulars to other particulars (Hijriati, 2017). Language development is accompanied by cognitive development in early childhood, starting to learn grammar and rules in making more complex sentences and also using high and low tones of voice (Zega & Suprihati, 2021).



The role of parents and teachers accompanying the educational process in early childhood must be sensitive and focused so that no moment is missed in their development process. This is supported by the opinion that understanding early childhood language development is very helpful in improving the development of children's language skills (Isna, 2019). Effective communication from parents as education for their children should be able to provide comfort for children with various creative stimuli. In order for communication to be effective between parents and their children, there are several elements, namely; communicating openly, speaking openly, listening attentively, using your statements to reflect children's ideas and feelings, avoiding the words don't or don't, using my words to express thoughts or feelings, communicating with eye level, using good words (Asmaunizar, 2023). The importance of parents paying attention to language skills in children is because parents are the key holders in terms of education and care for their children, therefore parents are required to have an adequate understanding and knowledge of the character that their children appear and also how to provide good stimulation that can develop their children's potential (Ismaniar, 2020). Language growth can be influenced in each child's area as well as their surroundings. Interaction with people who are older than him or better pronunciation plays a very significant role in helping the increase of children's skills and speaking or language (Afrizal & Syuraini, 2021). Communication between parents and children at home aims to interact with children, such interactions as giving children freedom of speech, and freedom to express their opinions (Haingu & Leda, 2021). Parental communication at home needs to be done to children every time, so that children know that they are heard, loved and appreciated (Rahmani & Setiyatna, 2024).

## 5. Conclusion

Based on the results of data analysis and discussion, it can be concluded that there is an impact of effective communication and cognitive development on early childhood language development.

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