

Level of Teacher Understanding of Simple Technology Early Childhood Education (ECE) in Kedurang District, South Bengkulu

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Abstract

The purpose of this study is to describe the level of teacher understanding of simple technology and make evaluation materials to apply the importance of applying simple technology before learning in Kedurang District, South Bengkulu Regency. The study used a quantitative decryption approach. The population in this study is Early Childhood Education teachers in Kedurang District, South Bengkulu Regency. The sample in this study was a total sample of 52 ECCE teachers using questionnaires to collect data, after the data was collected in analysis using ordinal level category formulas. The results showed that the level of understanding of Early Childhood Education teachers in Kedurang District towards simple early childhood technology was low. The level of teacher understanding of translation, interpretation, and extrapolation of simple learning technologies is low. The suggestion from this study is that it is recommended for ECCE teachers to further improve and understand the importance of simple technology in children, by attending seminars and training related to simple technology.

A. Introduction

PAUD is a level of formal education for children aged 0-8 years, in this education children get stimulation that develops all child development. Based on Permendikbud No. 137 of 2014 as a national standard for early childhood education states that growth and development in these other aspects are religious-moral, physical-motor, language, cognitive, social-emotional, and art. In accordance with STPPA (Child Development Attainment Level Standards).

Early childhood education is an effort to foster and take actions taken by (parents and educators) in carrying out the process of caring, nurturing, providing learning in a holistic network. This education emphasizes laying the foundation, the growth and physical development of children, cognitive (the presence of pickers, creativity, spiritual intelligence), socio-emotional (religion, attitudes, language and communication skills), according to the child's (Maula et al., 2021; Puspitasari, 2023).

The methods used in child learning are closely related to the dimensions of child development, namely motor, cognitive, language, creativity, emotion and social. To develop children's cognition, methods can be used that are able to move children to grow thinking, reasoning, being able to draw conclusions, and make generalizations. The trick is to understand the environment around him, know the people and objects that exist, understand the child's own body and feelings, train to take care of himself (Thoriq & Fauzan, 2017). In the development of early childhood it is necessary to do stimulation for children, stimulation that is usually done is by developing 6 aspects of development, namely: religion, physical motor, social emotional,

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cognitive, language and art. In this case, not only do stimulation as usual, but over time it is necessary to involve technology in this early childhood education.

Technology, according to Fischer (1975), is the totality of tools developed by society to obtain material objects for food and human comfort. Technology in education is very important to use and apply even developed because with information technology, manipulations of concrete objects can be done by simulation. The use of information technology-based media in addition to introducing technology from an early age to children, also has several positive impacts. Among them is increasing children's interest, children will be interested and not feel the learning atmosphere because of interesting visualization and audio. With audio visuals that suit their preferences, children also do not feel bored to repeat. In addition, educators / parents can also incorporate interactive elements into the media created, thus training children to communicate and express their own actions (Nisa, 2012).

Technology is a whole that provides goods and human needs in the world, if simple technology is a more practical and easy learning medium, namely with information technology, manipulations of concrete objects can be done by simulation. If the enactive stage emphasizes more on counting stones manually, by shifting objects one by one, separating which ones have been counted and which ones have not; Then this process can also be done through technological simulation.

In addition to introducing kids to technology early on, using information technology-based media also has a number of advantageous effects. One of them is piquing kids' interest; thanks to engaging audio and imagery, kids won't feel like they're learning anything. Children do not get bored repeating things when the audio and visual elements are tailored to their interests. Additionally, instructors and parents can add interactive components to the produced material, teaching kids to speak and express their own activities (Nisa, 2012).

It is meant to guide technology goods so that they can be used effectively for the benefit of educational growth through the use of information and communication technology in recent learning activities (Gunawan, 2016). To prepare children for the rapid development of technology, a solid awareness of the field of technology needs to be imparted from an early age. Technology will be a key factor in how the world develops in the future. It is understood that technology will make it easier for people to live happy lives (Wahyuni et al., 2020).

The development of children is influenced by a number of things, including digital technology. The introduction of digital technology disrupts a number of developmental milestones that kids should reach. Their daily activities are made easier and more rapid by technology. Television, the internet, video games, iPods, iPads, and other entertainment technology have advanced so quickly that a family is scarcely conscious of the enormous influence and lifestyle changes on their family. In (Alia & Irwansyah, 2018), Rowan, 2013, is cited.

Teachers can enhance and grow their competences, particularly pedagogical and professional competencies, by employing technology to support learning. The assumption and expectation is that the use of technology in learning will be a way to solve the learning issues that arise in the classroom as a result of instructors' subpar use of technology in education, particularly in early childhood education. Using information and communication technology (ICT) in early childhood education (ECCE) learning in accordance with the child's optimal stage of development is one of the things that the educational community, particularly teachers, can use to carry out the learning process. While still prioritizing the principles of early childhood learning by taking into consideration its characteristics and development, the usage of ICT is anticipated to be one of the possibilities in addressing the issues of ECCE learning in the present (Hardiyana, 2016)

According to Benjamin S. Bloom, Bloom 1956 in (Marzano & Kendall, 2007), comprehension is the ability to interpret or repeat information using one's own language. There are three components to understanding, according to Bloom, who divides the cognitive domain into the six lowest to highest levels. These components are translation, interpretation, and extrapolation. 1) Translation, which is the capacity to comprehend concepts presented in a manner different from the recognized statement. 2) Interpretation, also known as interpretation, is the explanation or summary of a communication. An illustration of this would be the interpretation of information from various data that has been recorded, modified, or arranged in different ways, such as graphs, tables, or diagrams. 3) Extrapolation, which entails extending a tendency's application beyond the facts to determine implications, repercussions, and effects based on the

circumstances of a phenomena at its inception, for instance by making explicit claims in response to conclusions in a literary work.

From the theory above, it can be concluded that understanding is a processor in receiving information, understanding also has 3 parts, namely translating, interpreting and extrapolating. So, what a person says is that when he receives information, he knows and does according to what is informed. It is argued that teachers are a very decisive component in the success of an education. So, teachers are a factor that greatly determines the success of education. This is indeed natural because the teacher is the spearhead who deals directly with children in learning. No matter how good and ideal the curriculum is, no matter how perfect the classrooms and infrastructure, and no matter how strong the enthusiasm of the students, if it is not balanced with the teacher's skills, then everything is less meaningful (Damanik, 2019).

According to Musfah in (Danil, 2017) competence is a collection of knowledge, behavior and skills that must be possessed by a teacher to achieve learning and educational goals. Competencies that teachers certainly must have are professional, pedagogic, personality, and social competencies. This competence is an attribute of a teacher to carry out his duties effectively.

According to Apriyanti (2017), each teacher certainly has their own personality according to the personal characteristics they have. A good teacher's personality is a good model for children and society. Teachers are seen as figures worthy of example, so the competence of a teacher's personality is definitely the most important factor in the success of his students.

Personality competence is a competency related to teacher behavior in everyday life and reflects a steady, stable, mature, wise and authoritative personality, the teacher becomes an example for students and has a noble character, where personality ability is a factor influencing teacher performance to improve the quality of education (Roqib and Nurfuadi, 2020; Sofia and Yulistia, 2020 quoted (Kartika & Ambara, 2021)

The same thing was stated by Arifai in (Kartika & Ambara, 2021) stating that teachers should have a steady, stable, mature, wise, and noble character, and are expected to grow independently in completing tasks and getting used to developing work ethic, so that it can have a positive impact on teachers' lives in their daily activities. Thus, it can be concluded that teachers need to have a good personality because it is a factor that affects performance in improving the quality of education.

Teachers play an important role in stimulating 6 aspects of development in children. Teachers must understand how strategies can be done for the development process in the child. Therefore, before learning, teachers are expected to have made a good learning plan, by including a design to carry out activities that train aspects of child development but the fact in the field is that there are still many teachers who do not understand about simple technology that can be applied to early childhood.

Being a teacher should understand the roles and tasks to be carried out as expressed (Raibowo et al., 2019), this has been regulated in the law which includes teacher competency standards. Teacher competency standards are divided into 4, namely social competence, personality competence, pedagogic competence, and professional competence.

Teachers play an important role in educating children. The role of teachers in early childhood education is very broad, namely: (1) Facilitator, namely the teacher can direct and the teacher can provide needs for children related to the learning process, (2) Motivator is the teacher can be someone who is present when the child needs encouragement or motivation, and the teacher can reinforce positive behavior in children by giving praise, so that children want to maintain positive behavior, (3) Behavioral Model, where educators or teachers not only provide instruction about behavior through oral, but the most effective for early childhood is to provide examples through behavior, (4) Observers, namely educators can observe all children's activities not only the learning process, but while playing. This observation is carried out in a participatory manner, where the teacher is directly involved and participates in children's activities. The results of observations made by teachers can be communicated, recorded, and interpreted to design programs that suit children's needs, (5) Peacemakers, namely teachers can be mediators when conflicts occur in children, and educators must also be able to resolve conflicts and reconcile children and their relationships are shaped as before conflicts occur, (6) Caregivers, teachers can be someone who wins children and even makes children comfortable, Because early childhood is very dependent on adults, such as when children wet the bed or defecate in pants, teachers are able to handle and nurture (Maula et al., 2021).

In this case, the role of teachers plays an important role in the world of education, especially for early childhood. Technology over time will evolve and a teacher must keep pace with that. But the fact is that in the field there are still many teachers who do not understand and some already understand. This is an interesting fact to research.

B. Research Methods

This study used a survey method with a closed questionnaire measuring instrument. The questionnaire contains questions about simple technology in the form of multiple choice with alternative answers (a, b, c and d). Data collection was carried out by distributing closed questionnaires to respondents, namely PAUD teachers in Kedurang District, totaling 52 people. The results of the questionnaire score were then divided into five categories, namely very high, high, medium, low and very low.

The researcher used a qualitative descriptive research method because this study explored the incident, namely the level of teacher understanding of simple technology in Kedurang sub-district, South Bengkulu. In addition, this study is also inductive and the results emphasize meaning. So to get results that are in accordance with the purpose of the researcher, namely describing the problem under study. Researchers take data using statistical data so that the facts obtained are more valid and also researchers can describe the level of teacher understanding through statistical data that has been obtained.

Sample

A sample is a part of the population where ampelous itself is taken from the population and must be completely represetative or representative (Sugiyono, 2013). While Siyoto & Sodik, (2015, p. 64) define a sample as a small part of the population taken based on certain procedures or techniques that can represent its population.

In determining the sample there are several techniques that can be done. In this case, researchers use nonprobability sampling with saturated sampling techniques. According to Sugiyono, saturated sampling is a sampling technique when all members of the population are used as samples (Sugiyono, 2013). This technique was chosen because it wanted to make generalizations with small errors and a population of less than one hundred. So that a sample of 52 PAUD teachers in Kedurang District was obtained.

Sampling technique

This study used nonprobability sampling with saturated sampling techniques. This technique was chosen because it wanted to make generalizations with small errors and a population of less than one hundred (Sugiyono, 2013). Based on this sampling technique, a sample of 52 PAUD teachers was obtained in Kedurang District, South Bengkulu.

Table 1. Sample Data of ECCE Teachers in Kedurang District

No	Name of Institution	Number of Teacher	Teacher Name			
1.	Nabila	4	1.EMS	2.RL	3.NH	4.PA
2	Rafflesia	2	1.YM	2.ND	-	-
3.	Ceria	2	1.LD	2.RM	-	-
4.	Harapan Maju	4	1.RDA	2.NH	3.S	4.DS
5.	Mutiara Bunda	3	1.IA	2.RU	3.TA	-
6.	Paud Nur Zahrah	2	1.JH	2.RN	-	-
7.	Paud Melati	3	1.M	2.JN	3.VT	-
8.	Paud Al Hidayah	3	1.SPS	2.HF	3.FK	-
9.	Paud Bakhti Ibu	3	1.M	2.S	3.AA	-
10.	Paud Al Ikhlas	2	1.VS	2.TR	3.OP	-
11.	Paud Ar-Royan	3	1.FF	2.A	3.R	-
12.	Paud Star Kids	4	1.NPS	2.MH	3.MS	4.SH
13.	Paud Al Amin	2	1.DP	2.DA	-	-
14.	Paud Shakinas	3	1.NA	2.YRS	3.ES	-
15.	Paud Kasih Ibu	4	1.LA	2.LW	3.MT	4.PY
16.	Paud Anggrek	2	1.J	2.TP	-	-
17.	Paud Melati Ii	2	1.E	2.Y	-	-
18.	Paud Kejora	3	1.RR	2.SHY	3.DM	-
Jumlah			52			

(Head of HIMPAUDI Kedurang District)

Data analysis techniques

The data analysis technique used is a descriptive analysis technique, which is a technique used to analyze data by describing or describing the data that has been collected as it is without intending to make conclusions that apply to the general public or generalization (Sugiyono, 2013). Furthermore, how to determine data analysis is to find the magnitude of the average formula and percentage, which are as follows:

$$X: \frac{\sum X}{N}$$

Source: Sudjiono (2006)

Information:

X : Average rating

 $\sum X$: The sum of all values

N : Total

$$P: \frac{F}{N} \times 100\%$$

Source:Hermawan (2019)

Information:

P = Percentage Number

F = Number of Answer Frequencies

N =Amount

To clarify the results of the analysis, categories were made as follows:

Table 2. Comprehension Level

Score	Category
5	Excellent
4	Good
3	Keep
2	Less
1	Less Than Once

Source:Agip dkk (2009)

To facilitate data processing, the categories of understanding are modified as follows:

Table 3. Guidelines for Categorizing Teacher Comprehension

Number	Category	Category
5	17-20	Excellent
4	13-16	Good
3	9-12	Keep
2	5-8	Less
1	0-4	Less Than Once

C. Results and Discussion

Teknik pengumpulan data yang digunakan dalam penelitian ini adalah angket tertutup dengan soal pilihan ganda (a, b, c dan d) yang terdiri dari 20 item. Jumlah sampel yang digunakan yaitu sebanyak 52 orang guru PAUD se- kecamatan Kedurang. Hasil penelitian secara ringkas dapat dilihat pada tabel berikut:

Table 4. Level of ECCE Teachers' Understanding of Simple Technology in Kedurang District, South Bengkulu Regency

Information	Number of scores			Total Score
	Transletesion	Interprations	Ekstrapolasion	
Sum	127	128	119	375
Average	2,44	2,462	2,29	7,23
Category	Very Low	Very Low	Very Low	Low

From table 4.2 above, it can be concluded that the level of understanding of ECCE teachers towards simple early childhood technology translation before learning in Kedurang sub-district is low, with an average score of 2.44. The level of understanding of ECCE teachers on the interpretation of simple early childhood technology in Kedurang sub-district is categorized as low, with an average score of 2.46. The level of understanding of ECCE teachers on simple technology extrapolation of early childhood in Kedurang sub-district is categorized as low, with an average score of 2.29. So it can be concluded that the level of understanding of ECCE teachers on simple early childhood technology in Kedurang District, South Bengkulu Regency is categorized as Low, with an average overall score of 7.23. Determination of the high, medium or low category of the data in accordance with the categorization table that has been determined.

Then explained in graphic form according to the following categorization:

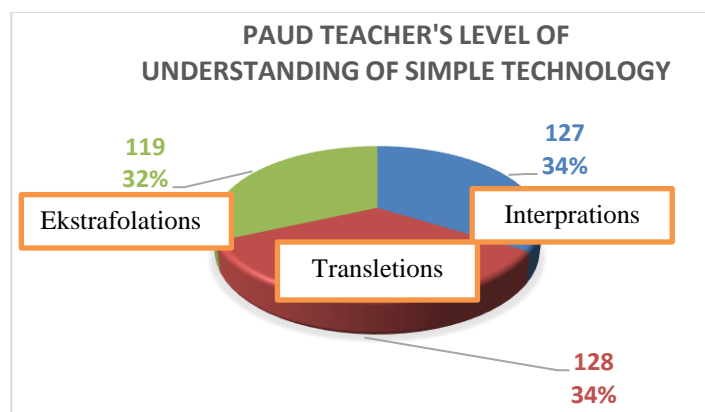


Figure 1. Simple Technology Understanding Level Diagram

The purpose of this study is to describe the level of understanding of ECCE teachers towards simple technology in Kedurang sub-district, South Bengkulu Regency. Based on the results of the study, it shows that the level of understanding of ECCE teachers towards simple technology in Kedurang sub-district, South Bengkulu Regency is included in the Low category, based on the average number of scores obtained.

The understanding of ECCE teachers in Kedurang Sub-district of South Bengkulu is low as the results of translation, interpreting, and exploration are low. This can be seen in the results of the study with scores in the low category. In this case, it can be interpreted that PAUD teachers in Kedurang do not understand simple technology for early childhood.

This research is inversely proportional to the research written by [Pramudyani & Indratno \(2022\)](#) with the results of the study, namely STEAM Development in ECCE, amounting to 80.49%, saying that one form of development is using simple tools, media, and learning resources around the environment such as the use of loose parts. STEAM can also be given to children at the age of 2 years and under, by preparing simple activities such as showing objects or toys they fall down as a concept of gravitational force. As for evidence related to STEAM, as many as 79.68% of respondents agreed that children naturally have characteristics of being able to solve problems, this ability will be easier to develop through STEAM. Children, when doing something independently, they will do various kinds of experiments, correct mistakes, and develop problem-solving strategies. In the results of this study, it was shown that there was a teacher's understanding of simple technology in PAUD, but in the results of the research studied, the understanding of ECCE teachers in Kedurang District was still very low. This needs to be evaluated by ECCE teachers in Kedurang District so that they can understand and apply it in the field.

D. Conclusion

Based on the results of research and data analysis, it can be concluded that the level of understanding of ECCE teachers towards simple technology in Kedurang District, South Bengkulu Regency is low. The level of understanding of ECCE teachers towards simple technology in Kedurang District, South Bengkulu Regency is seen from sub-indicators, namely: The level of understanding of ECCE teachers in Kedurang District, South Bengkulu Regency towards translation, interpretation and extrapolation is low.

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