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Implementation of Research Learning Using Learning Tools Padlet to Develop Early Childhood HOTS Skills

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ABSTRACT

Students who are educated with HOTS are able to apply what they have in new situations. The purpose of this study is to find out the description of how to implement research in early childhood by using Padlet learning tools so that it can develop HOTS skills in learning. The research was conducted at TKIT Nurul Fikri, West Java. Data collection techniques were carried out by observation, interviews, and documentation. The data analysis technique used the Miles Huberman model. HOTS skills developed in research learning using Padlet are analysis, evaluation, and creation. The stages of research learning are making observations, making research questions, making research designs, making research sheets, carrying out, and communicating research results. Research learning using padlets motivates children to complete their tasks, breaks boredom, and creates an emotional connection with the material and can be well documented.

Keywords: *Implementation, Research, Padlet, HOTS*

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INTRODUCTION

High-level skills are very important in the 21st century. The ability to be able to solve problems, be creative in everything, and be critical of the problems around them is very much required for students. This is in accordance with what was said (Kumar et al., 2021) increasing quality human resources to achieve the demands of global competition is to increase the intellectual and critical thinking of students. The need for children in the future is the ability to think critically. Phenomena that arise around them will be addressed properly and can be resolved, all of which will be their experience in facing the next problem. To realize a school that can teach children to think critically is not easy. Schools must shift from teacher-centered learning to student-centered learning (Cahyani et al., 2023).

A survey conducted by Rahayu at a kindergarten school conducted in Cimanggis sub-district, Depok city, obtained survey results that said learning carried out in schools still

uses methods where the teacher is the center of learning; the method delivered also uses a classical system, and there are still many teachers using worksheets in assigning learning to their children (Nurjannah, 2023). The survey results are 56.4% still use a group approach in their learning; other results are 12.8% of schools use centers, and there are still many schools that use the classical system. This shows that in learning, teachers have not accommodated students' ideas, and children's critical thinking has not been stimulated much in learning. To be able to realize learning that trains HOTS in children, different learning methods are needed (Kholis & Rigianti, 2023).

According to Jhon Thomas in(Zahrawati & Aras, 2020) HOTS learning trains students to design concepts to be learned, find problems and answer these problems, take risks with decisions that can be accounted for and activities that are not conventional, and students search for themselves starting from finding problems until they are solved and become new concepts in the period they determine themselves (Budiarti, 2024).

Research-based learning is an alternative in making it easier for students to gain knowledge directly, according to (Zulkarnaen, 2020) explaining that a way of learning that can make students gain their own knowledge is research as a learning base. Schools must make students the center of learners and teachers as mentors and facilitators in assisting children to discover new concepts (Hadi et al., 2022).

Research-based learning carried out by Nurul Fikri Kindergarten is presented in an interesting way so that children are happy, motivated, and want to follow the activities until completion. One of the ways used is using digital teaching materials that can make children do feedback from the material that has been learned, and learning becomes effective (Sri Handayani, 2022). The teaching medium used is a padlet that allows children to discuss and review their research activities. This is in accordance with (Al-Fitrie et al., 2023) who said Padlet is one of the media that can facilitate children to discuss topics. The ability to collaborate with classmates in real-time is an advantage that this application offers to children. In addition, the Padlet application can document all activities that can be seen by children and parents repeatedly. Teachers' difficulties in documenting learning can be overcome by the Padlet application, which can easily store data and student activities (Hastuti et al., 2023). In addition, parents can easily access their children's learning activities, making it easier for them to obtain information on learning achievements and accompany and assist children in finding learning concepts. Using Padlets as an introduction to digital media and digital literacy in early childhood, because it is very important to introduce digital literacy to children according to research (Budiarti, 2022).

Based on relevant research that has been done before, the importance of critical thinking for the future of Indonesian children, and research learning activities using padlets that have been carried out at TKIT Nurul Fikri, this study was conducted to see how the implementation of research learning using padlet learning tools is carried out at TKIT Nurul Fikri to develop HOTS skills in PAUD.

METHOD

The research method used is qualitative research, which is a method that makes detailed observations in the implementation process. This method describes in detail all the events and occurrences to collect data in the form of research learning objectives, what HOTS components are developed, research learning steps, obstacles, and solutions in research learning, which are described systematically and carefully. This research was conducted at TKIT Nurul Fikri Kelapa Dua Depok, West Java. The research was conducted for three months, from January 2024 to March 2024. In this study, there were nine teachers who were interviewed; they were teachers who implemented classroom research using Padlets as research media.

To get the data needed, the author used several data collection methods, the first through interviews and observations made by researchers to observe classroom learning activities with observation guidelines. The third data collection is documentation, namely data collection in the form of photos or videos of research activities carried out in the classroom. The data analysis carried out by researchers is that researchers compile data from the results of interviews and observations made in the field combined with documentation, which is analyzed to then draw conclusions that are easy to understand (Bogy Restu Ilahi et al., 2023). The data analysis technique consists of three stages that complement each other, namely, the first is data reduction, the second is data presentation, and the third is conclusion drawing. In the data reduction process, the author selects important and relevant data and focuses on data that answers problems, findings, impacts, or research. The process of presenting data in the form of documents, words, or images combines information to describe the context.

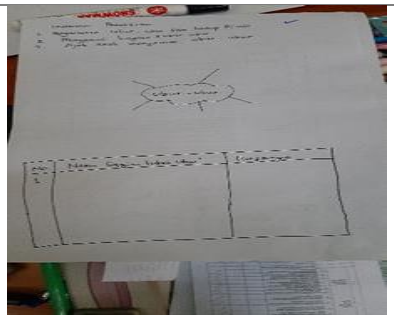
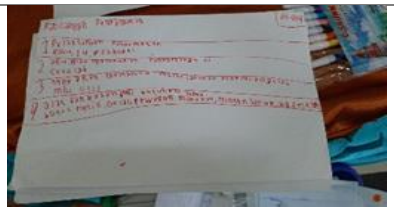
RESULT AND DISCUSSION

Based on the findings obtained from research conducted in the research location, it can be stated about the purpose of learning research in kindergarten. From the results of the interview, it was concluded that the purpose of research learning is to help children solve problems, get new concepts, utilize the media around them, learn more directedly, become independent, learning activities become fun, be interested in continuing to learn, and make something according to their ideas. From the interview above, it can be concluded that parents have the same understanding as teachers about the purpose of research learning, which states that the purpose of research learning in kindergarten is to enable children to think critically, learn from problems, and find solutions to existing problems. This research learning is important to be taught since childhood because it will be a provision when growing up.

From the observations made by researchers, it was found that the stages of research carried out by students using padlets were carried out in the following stages: 1)Make observations; 2)Formulate research questions; 3)Make observation sheets; 4)Make observation plans; 5)Carry out research; 6)Make research results; 7)Concentrate research results. Concentration of research results. Students get a Padlet account; the teacher will document student research activities and enter them into each child's Padlet. Designing

research learning is done by 1)starting research, 2)developing research, 3)making research results, and 4)presenting research results.

Table 1. Designing Research Learning

NO	Activity	Stages	Description
1.	Starting Research	Finding the Problem	
		Creating a Question	
2.	Developing Research	Making an observation sheet	
		Creating a research design	
		Conducting Research	
3.	Making Research's Results	Making Research's Results	

4.	Presenting Research's Results	Student's Presentation	

The HOTS abilities developed are being creative, thinking at a high level, determining objects, making questions, designing observations, making instruments, collecting data, presenting, being able to assess learning outcomes, observing, finding sources of information, conveying, finding problem data, formulating goals and concluding, finding answers to questions submitted by conducting investigations and experiments to get an answer.

Tabel 2. HOTS Skills in Research Learning

Dimensions Of Hots Skills	Emerging Skills	Stages Of Research Learning	Form Of Activity In Learning
ANALYZING			
Distinguishing	Able to determine the object	Start Research	- The child is asked to identify the object
	Able to observe the object		- The child is asked to create a research question
Organize	Search for sources of information,	Developing Research	- The child is asked to conduct research
	Searching for problem data,		
Connecting	Looking for answers to questions	Developing Research	- The child is asked to conduct research by (dividing, detailing on the experiment conducted)
EVALUATE			
Checking	Assessing learning outcomes	Research Presentation	- Children are asked to present their research by checking their research according to their friends' questions.
	Getting an answer		
Critique	Summarizing	Research Presentation	- The child is asked to defend his/her opinion
	Present,		

	experiment			according to the research during the presentation
CREATE				
Planning	Formulate objectives,	Developing research	-	Make an observation sheet
	Making instruments.			
	Designing observations,		-	Designing research (place, time and facilities, people who can help)
Producing	Making media	Creating research results	-	Make research results in the form of research boards according to research points

The assessment is done based on the targets to be achieved from each step of the research activities carried out by the child. This is done to determine the results of research skills achieved by children. The assessment by filling in BB is not yet developed, where the child does not want to do the activity. The MB assessment is starting to develop; in this assessment, the child is willing to do the activity; it's just that the teacher or parents are still helping a lot. BSH assessment is developing as expected, meaning that children can already do according to the target that has been determined.

From the expected target, class children can carry out all stages with different developmental achievements. 1) For the activity of making observations: All children reach the target of developing as expected. 2) Making research questions: all students reached the target of children developing as expected. 3) Making research design: thirteen children reached the target and two children have not reached the target. 4) Making research sheets: only two children reached the target, and thirteen children still did not reach the target. 5) Making research: thirteen children reached the target, and two children have not reached the target. 6) Making research results: Fourteen children reached the target, and one child has not reached the target. 7) Research presentation: ten children reached the target and five children have not reached the target.

The purpose of research learning is to make activities effective, children can solve problems, and the media around and children's daily lives become effective media to develop creativity and ideas that come from within making learning fun. Similarly with (Sri Handayani, 2022) effective learning can make students identify and construct knowledge and can apply it in life and develop creativity wherever students are. Likewise, the purpose of research learning from the school that is instilled in teachers to be taught to students is research learning designed by the school as a series of activities of observation, collection, processing, analysis, and presentation of data carried out systematically and objectively aimed at solving a problem. These objectives can be understood by teachers in teaching

research learning in class.

The stages of research learning are structured, systematic, and facilitate implementation and collaboration with parents. In line with what was said (Zulkarnaen, 2020), in his research entitled research-based learning design, he concluded that research-based learning requires information about student activities; research learning must be structured.

The steps in research learning that can be done are: 1). finding and defining the issue or problem; 2). creating a research plan; 3). Collecting data, 4). Interpret research data that leads to conclusions to solve the problem, 5). Report research findings and present information. Linking with Anderson Kreatwol's taxonomy of three levels of HOTS thinking in a learning process, namely 1) analyze. 2) evaluate, and 3) create(Munawaroh, 2022). The ability to analyze the indicator is to distinguish, organize, and connect; the ability to evaluate the indicator is to check and criticize; and the ability to create the indicator is to plan and produce.

The developed HOTS abilities are associated with Anderson's taxonomy, so the aspects of analyzing, the developed abilities determine the object, make questions, observe, look for sources of information, find problem data, and find answers to questions. Aspects of evaluating: the ability developed assesses learning outcomes, concludes, presents, and experiments to get an answer. The aspect of creating, the ability that is developed, formulates goals, designs observations, and makes instruments.

CONCLUSION

From the research results, it is concluded that the understanding of the purpose of research learning is to make activities effective, solve problems, and develop creativity and ideas that come from within making learning fun. Implementation of research learning with steps 1) Make observations; 2) Formulate research questions; 3) Make observation sheets; 4) Make observation plans. 5) Carry out research, 6) Make research results, 7) Presentation of research results.HOTS components that can be developed in research learning are analysis, evaluation, and creation.Obstacles and solutions to research learning that can be done are parents must be active, difficult internet signals must be found a solution, need assistance in filling out padlets, teachers must be a companion during learning, and annoying cellphone advertisements can be anticipated.

Based on the research results that show HOTS skills can be developed in research learning, the following are practicing research learning in the classroom using pads. Parents must pay attention to facilities and infrastructure, especially internet connections. Parents as research learning partners must get rules and guidelines in assisting children so that learning can be maximized. The time used in research learning must be longer because the teacher stimulates children one by one..

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