

Development of Haber Media Based on Illustrated Number Letters to Early Childhood Cognitive Abilities

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Abstract:

This study aims to describe the level of needs, determine the design of Haber's media development in developing AUD cognitive abilities, and determine the effectiveness and practicality of developing Haber's media and guidebooks in developing AUD cognitive abilities. This type of research includes R&D development research. Data collection techniques in this study were conducted using interviews, observations, and questionnaires. The subjects of this study were four teachers in group B. The methods of quantitative and qualitative data analysis. The results show that level of need for Haber's media development is very much needed in developing cognitive abilities in early childhood, the form of the Haber media development design in developing AUD cognitive abilities is designed in the order of preparation of the instrument guidebook for using Haber's media development in developing cognitive skills AUD functional and operational basis, level the practicality and effectiveness of Haber's media development in the development of AUD's cognitive abilities got results from very effective teachers.

Keywords: Haber, graphic letters cards, cognitive development.

INTRODUCTION

Early childhood education aims to form quality children, namely children who grow and develop optimally. Early childhood is a child in the age range of 0-6 years. At this time, the child experiences a golden age, and the child experiences stages of development according to his age. Children have high curiosity, love to ask questions, and love to imagine. At this age, the growth and development of children are very rapid because they are in a sensitive period that needs to be given the proper stimulation for their growth and development in exploring every potential that exists in each child. The standards for early childhood education refer to the Regulation of the Minister of National Education Number 137 of 2014 which contains standards for the achievement rate of growth and development of children from birth to the age of six.

The scope of child development that must be achieved is the integration of various aspects of understanding, including religious and moral values (NAM), physical/motor, cognitive, social-emotional, art, and language. These aspects of development are essential to

developing so children can grow and develop optimally. One aspect of children's fundamental abilities that need to be developed that will significantly affect growth and development in other aspects is cognitive development. Mena and Eyer (2009) posit that cognitive development is a concern because it relates to skills, memory, language, and problem-solving ability. Cognitive development is a comprehensive development related to the ability to think, such as the ability to reason, remember, memorize, solve real problems, and create ideas and creativity. Cognitive development affects a child's mental and emotional development and language skills. Children's attitudes and actions are also related to the child's thinking ability. Cognitive development is the key to non-physical development. Cognitive abilities aim to develop children's thinking skills, children can find various kinds of problem-solving alternatives, help children to develop their mathematical logic skills and knowledge of space and time, and can sort, group, and prepare for the development of careful thinking skills.

Based on the results of interviews that researchers conducted, the learning process only relied on LKA (Children's Worksheets). It is very unfortunate because when learners use cards or block media, children are more enthusiastic and enthusiastic than learning that only uses children's worksheets. Cognitive development has a vital role in children's success in learning because most of their activities in education are always related to problems remembering and thinking. These are cognitive activities that need to be developed. The use of card media in learning has proven to be effectively used before, this is demonstrated in research conducted by Aisyah (2015); the results of the study show that this method of playing picture card media meets practical aspects so that it is suitable for use and the level of effectiveness of the technique of playing with picture card media shows that the average child's learning development is in the category of Developing According to Expectations with a percentage level that diverse and moderate child activity of 4.7 or in the very high class ($3.5 \leq AD \leq 4$). Made et al. (2015) also put forward the corresponding research. The results of the study showed that the implementation of the letter card media-assisted play method in the first cycle can develop (1) the ability to read images to as many as 18 children (85.71%), (2) social and emotional abilities as many as 17 children (80,95%). In cycle II, 21 children (100%) can develop the ability to read pictures. 2) the social and emotional ability of 21 children (100 %).

Children's cognitive development is critical, it needs to get serious attention. It needs to be stimulated and developed so that children can solve problems, help children develop mathematical logic, group, and know the size of objects, so it should be in directing children through a meaningful learning process and carried out. Remember that the main purpose of learning is a change in student behavior after following the learning process.

This is what underlies the researchers to develop learning media in the form of image cards and number cards, where these picture cards are named picture number letter cards or picture number letter cards. This picture number letter card will be designed to be attractive to children and can develop children's cognitive abilities to be maximized. Therefore, this underlies researchers' research with the title "Development of Learning Media Kartu Illustrated Number Letters in Developing Cognitive Abilities in Early Childhood." Early childhood learning is a child-oriented learning activity adjusted to the child's age level. Educators prepare several learning experiences through play by designing materials and learning processes.

In essence, children learn while playing; therefore, early childhood basically plays. Following the characteristics of early childhood who are active in carrying out various explorations of their environment, play activities are part of the learning process. For this reason, learning at an early age must be designed so that children feel unburdened in

achieving their development tasks. To develop aspects of child development, especially cognitive aspects, special attention is needed to create those aspects in the child's learning process—one of the tools that can be used as learning media. Media is an integral part of the learning process to achieve learning objectives. Media develops early childhood cognitive abilities. The media used in the learning process is in the form of cards with numbers, letters, or pictures written by the theme taught. Card learning media is a tool for children to remember lessons. Card learning media can create a memorable impression so children do not forget it easily.

Cognitive development is the ability of children way of thinking to understand the surrounding environment so that their knowledge can increase. This means that with the ability to think, children can explore the environment around them to gain knowledge. Children's cognitive development is closely related to learning media, especially picture cards, because it can stimulate their thinking development or power. A child's cognitive development occurs through three stages, namely the enactive stage, the iconic stage, and the symbolic stage. According to Bruner (1996), image media includes the iconic location, the stage at which children have grown; they can use imagination, images, or icons to understand the world and use it to help them think. Through the medium of picture cards, children's experiences and understandings and understandings will become more comprehensive, transparent, and not easily forgotten.

However, based on the results of observations made at the DWP Setda Prov Pertiwi Kindergarten. Sul-Sel and TK Telkom can be seen in the learning process, teachers only rely on LKA (Children's Worksheets), which contain simple math problems to do, and the use of media during the learning process is not too maximized or even less adapted to learning activities and themes. The results of an interview conducted with one of the teachers in each of the teachers of TK Pertiwi DWP Setda Prov. Sul-Sel and TK Telkom revealed that in the learning process, teachers use rough media such as blocks and cards but are not by the learning material, not only that the teacher announced that they did not use guidebooks as a reference to develop children's cognitive abilities. Based on this, researchers are interested in producing a guidebook product for the use of learning media for illustrated number cards (Haber) in the development of early childhood cognitive abilities and for teachers so that the learning process can be more effective, learning materials according to the stage of development and needs of children, especially in children's cognitive development.

The main focus in this study is (1) What is the description of the need for the use of illustrated number card learning media to develop early childhood cognitive abilities of Khalifah III Makassar Kindergarten? (2) How is the design of developing illustrated number card learning media to develop early childhood cognitive abilities in Khalifah III Makassar Kindergarten? and (3) What is the level of effectiveness and practicality of learning media for illustrated number cards to improve early childhood cognitive abilities in The Kindergarten of Caliph III Makassar? The purpose of this study is (1) to find out an overview of the need to use the learning media of illustrated number cards to develop early childhood cognitive abilities of Khalifah III Makassar Kindergarten, (2) to find out the design of developing learning media for illustrated number cards to develop early childhood cognitive abilities in Kindergarten Khalifah III Makassar, (3) to find out the level of effectiveness and practicality of learning media for illustrated number cards to improve early childhood cognitive abilities in The Kindergarten of Caliph III Makassar.

METODE

This research is a research and Development (R&D) study using the Thiagarajan 4D learning device development model (Trianto, 2013) to develop illustrated number card med-

ia in children's cognitive abilities. Research and Development (R&D) is used to create and validate products. This research follows the steps or the method used for development and consists of research studies of the designed products (Sugiyono, 2017). The effect produced from this research is a guidebook for the use of illustrated number letter card media. This research focuses on group B of kindergarten, consisting of four teachers. This research was carried out at the Khalifah III Kindergarten in Makassar, data collection techniques were carried out using observation, interviews, and the dissemination of lifts. The validation instrument consists of (1) a teacher needs level analysis instrument, (2) a guidebook instrument, (3) a teacher response questionnaire instrument, and (4) a media evaluation instrument with illustrated number letters.

RESULTS AND DISCUSSION

This research began with a definition to determine the need for the development of illustrated number card media in the development of early childhood cognitive abilities. The needs analysis carried out to analyze the picture of the media needs of illustrated number cards in the development of early childhood cognitive abilities is to look at the phenomenon directly in TK Khalifah III Makassar. The needs analysis aims to discover field conditions that do not match expectations. At this stage, the study of the media needs for illustrated number cards is carried out by observation, interviews, and giving questionnaires to teachers.

Based on preliminary observations made on February 3-15, 2020, conducted by researchers at Khalifa III Makasssar Kindergarten, it can be seen that during the learning process, teachers use several media as teaching materials. One of the things used is card media, but card media in learning is used as necessary. Media use during education does not use guidelines so that the core of the activity is only sourced to the child's worksheet. This impacts children's lack of interest in the learning process so that learning objectives do not develop more optimally.

The results of the recapitulation above aim to see the extent of the teacher's need for the development of the medium of illustrated number letters. From the data above, questions 1, 3, 4, 6, 8, and 10 get 100% results from 4 teachers; in other words, all teachers do not use the appropriate card media in the learning process. As for questions number 2, 5, 7, and 9, 100% of the four teachers need a guidebook for using card media to develop children's cognitive abilities. Based on the results of the analysis of the level of teacher needs above regarding the development of illustrated number card media, it can be concluded that teachers have not used appropriate learning media, so teachers need appropriate media, especially card media, that can be used in developing children's cognitive abilities and teachers also do not have a guidebook for the use of card media. Therefore, a guide for developing illustrated letter card media was made for developing early childhood cognitive abilities.

Learning carried out by teachers in schools does not escape the role of teaching media as a forum to channel information or learning objectives to children. The development of the medium of illustrated number cards is devoted to developing the cognitive abilities of early childhood. The story of children's cognitive skills becomes one of the critical aspects of child development. Early childhood cognitive abilities are essential in child development because they relate to children's thinking abilities. In the development of illustrated number card media in the development of early childhood cognitive abilities, it is essential for teachers the implementation of the card media makes teachers have to know the steps of developing picture number card media step by step to produce learning objectives, namely early childhood cognitive abilities can develop.

The next step in this study is the preparation of the initial product design development,

namely the illustrated number letter card media; the researcher carried out several activities, namely Menyusun design, for the development of defined number letter card media in the development of early childhood cognitive abilities in TK Khalifah III Makassar. Compiling the Instrument, like the preparation of the media development of illustrated number letters, several aspects are collected and will be assessed by two validators and will be assessed by the teacher. The assessment results will later be used to improve the development of illustrated number letter card media.

The card media development design consists of several components, namely: 1) analysis of media needs for learning media development, 2) guidebook for the use of illustrated number card media in the development of early childhood cognitive abilities, 3) teacher response questionnaire (AGR) group B, 4) evaluation sheet for the development of illustrated number card media in the development of early childhood cognitive abilities. The content validation test for the development of illustrated number card media in the development of early childhood cognitive abilities that has been designed is as follows:

Table 1. Average Validation Results Analysis of The Level of Need for Media Development of Illustrated Number Cards

No	Assessment Aspects	\bar{x}	Information
1	Aspects of Hints	3,5	Valid
2	Language Aspects	3,6	Valid
3	Content Aspects	3,5	Valid
	Average of each Aspect (A_i)	3,6	Valid

Based on the results of the analysis in the table above, it can be explained that the average value of the total validity of the study of the level of need for the development of illustrated number letter card media in the development of early childhood cognitive abilities is obtained $\bar{x} = 3.5$, according to predetermined criteria the value is included in the Valid category, namely in the range of $3.5 > RTV \geq 2.5$. In addition, the assessment aspect of the guidebook with the highest validity criteria is four. Validation Results in a guide for using illustrated number card media to develop early childhood cognitive abilities. The average of each aspect of the assessment in the user manual is as follows:

Table 2. Average Results Validation of guidebooks for the use of media development of illustrated number letters in the development of early childhood cognitive abilities

No	Assessment Aspects	\bar{x}	Information
1	Book Components	3,5	Valid
2	Book Format	3,75	Highly Valid
3	Content of the Book	3,4	Valid
4	Language and Writing	3,75	Highly Valid
	Illustrations, table layouts		
5	Diagrams/Drawings	3,25	Valid
6	Benefits/Uses of Books	3,5	Valid
	Average of each Aspect (A_i)	3,5	Valid

Based on the results of the analysis in the table above, it can be explained that the average value of the total validity of the guidebook for the use of illustrated number card media (Haber) in the development of early childhood cognitive abilities is obtained $\bar{x} = 3.5$, according to predetermined criteria the value is included in the Valid category, namely in the range of $3.5 > RTV \geq 2.5$. In addition, the assessment aspect of the guidebook with the

highest validity criteria are 4. The results of the assessment of the teacher response questionnaire are seen on average in each aspect of the evaluation in the ARG as follows:

Table 3. Average Results of Teacher Response Questionnaire Validation (AGR)

No	Assessment Aspects	\bar{x}	Information
1	Aspects of Hints	3,75	Highly Valid
2	Aspects of direction	3,8	Highly Valid
3	Language Aspects	3,5	Valid
	Average of each Aspect (Ai)	3,68	Valid

Based on the results of the analysis in the table above, it can be explained that the average value of the total validity of the guidebook for the use of illustrated number letter card media in the development of early childhood cognitive abilities is obtained $\bar{x} = 3.68$, according to predetermined criteria the value is included in the Valid category, namely in the range of $3.5 > RTV \geq 2.5$. In addition, the assessment aspect of the teacher response questionnaire with the highest validity criteria is 4. The results of the assessment of the teacher response questionnaire are seen on average each aspect of the assessment in the ARG as follows:

Table 4. Average Validation Results of Evaluation of Media Development of Illustrated Number Cards

No	Assessment Aspects	\bar{x}	Information
1	Aspects of Hints	3,5	Highly Valid
2	Aspects of direction	3,6	Highly Valid
3	Language Aspects	3,5	Valid
	Average of each Aspect (Ai)	3,5	Valid

Nilai rata total validity of the guidebook for the use of the media development of illustrated number letters in the development of early childhood cognitive abilities obtained $\bar{x} = 3.5$, according to predetermined criteria the value is included in the Valid category, namely in the range of $3.5 > RTV \geq 2.5$. In addition, the assessment aspect of the teacher response questionnaire, which has the highest validity criteria, is 4. The results of validator assessments of learning tools, including the Handbook for the use of illustrated number card media in the development of early childhood cognitive abilities and Teacher Response Questionnaires (AGR), can be seen in the recapitulation of assessment results as follows:

Table 5. Recapitulation of validator assessment results on the development of illustrated number card media in the development of early childhood cognitive abilities

No	Assessment Aspects	\bar{x}	Information
1	Level Analysis of Media Development of Illustrated Number Cards in the Development of Early Childhood Cognitive Abilities	3,6	Valid
2	Handbook for the Use of Media Development of Illustrated Number Cards in the Development of Early Childhood Cognitive Abilities	3,5	Valid
3	Teacher Response Questionnaire (AGR)	3,6	Highly Valid
4	Evaluation of Media Development of Illustrated Number Cards in the	3,5	Valid

No	Assessment Aspects	\bar{x}	Information
	Development of Early Childhood Cognitive Abilities		
	Average of each Aspect (Ai)	3,5	Valid

The practicality test of the product development of illustrated number card media in the development of early childhood cognitive abilities was obtained from the teacher response questionnaire that was shared to determine the extent of practical card media to be used in the learning process. The results of the analysis of teacher response questionnaire data in the form of the results of the study of media evaluation data for illustrated letter cards shown in the table above obtained a percentage result of 92.86%; with predetermined criteria, it can be concluded that the guidebook for the use of card media received categories strongly agrees.

This effectiveness analysis aims to determine the effectiveness of the medium of illustrated number cards in the development of early childhood cognitive abilities. This analysis of the point of media development is seen on the media evaluation sheet of illustrated number letters in developing early childhood cognitive abilities. The results of the evaluation of defined number card media in the development of early childhood cognitive abilities can be seen in the table below: Based on the results of the analysis of the evaluation data of the illustrated number letter card media shown in the table above, a percentage result of 94.9% was obtained, with the predetermined criteria it can be concluded that the illustrated number letter card media received a very effective category to use.

CONCLUSION

Based on the results of research and discussion that have been put forward and connected with the formulation of the problem in this study, therefore conclusions can be drawn. Namely, the results of the analysis of the need for illustrated number card media in the development of early childhood cognitive abilities are needed in learning activities. The story of card media adds to the teacher's insight into the development of card media that is considered creative and innovative. The effect of this media also makes the learning process more enjoyable for children, and can make learning objectives, especially developing children's cognitive abilities, can be realized. The design overview of the development of illustrated number card media in developing early childhood cognitive abilities consists of several research components, including needs analysis, teacher response questionnaires, and card media evaluation sheets. As a result of the development of card media, a guidebook product for the use of illustrated number cards in developing early childhood cognitive abilities was produced. The results of validity testing by several expert validators showed that the development of the medium of illustrated number cards in the development of early childhood cognitive abilities was considered very valid. The results of the practicality test on the Teacher Response Questionnaire (AGR) sheet to the development of the illustrated number letter card media are practical to use. The effectiveness test can be seen in the results of the Evaluation sheet for the development of illustrated number letter card media, which gets very effective results. Therefore, the development of defined number card media in the development of early childhood cognitiveness has met the requirements for practical and effective feasibility for use.

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