

# Developing Teaching Materials Based on Scientific Approach to Improve Children Language Development Age 5-6 Years in RA Al-Mahabbah Batangkuis

Kharida Shaleha<sup>1</sup>, Rosmala Dewi<sup>2</sup>, Evi Eviyanti<sup>3</sup>

<sup>1</sup>*Basic Education of Postgraduate School State University of Medan*

<sup>2</sup>*Basic Education of Postgraduate School State University of Medan*

<sup>3</sup>*Basic Education of Postgraduate School State University of Medan*

*\*Corresponding author. Email: kharidashaleha10@yahoo.com*

## ABSTRACT

The purpose of this study is to develop the feasibility and effectiveness of teaching materials to improve the language development of children aged 5-6 years group B at RA Al-Mahabbah. This research was conducted at RA Al-Mahabbah Batangkuis Lubuk Pakam Desa Baru Dusun II, Batangkuis in the even semester of the 2019/2020 school year. The method was a research and development (R&D) of Dick and Carey learning development model using instruments in the form of interviews and checklists. Descriptive technique was used to analyze the data. The scientific-based teaching materials were developed by some steps including (1) analysis, (2) development, (3) design, (4) implementation, and (5) evaluation. Evidences by the results of trials, all aspects of the assessment are assessed by the Material Expert, and the whole aspects of the assessment are assessed by the Language Design Expert. It is proven from the results of the calculation that a significant value is obtained of  $0.000 < 0.05$ , then  $H_0$  is rejected and  $H_a$  is accepted, so there is an average difference between children's language skills from the pretest and posttest results, which means that there is an effect of teaching materials based on a scientific approach on children's language skills. The result and discussion depicted that the teaching material based on a scientific approach is appropriate to be used to improve the language development of children aged 5-6 years.

**Keywords:** *teaching materials, scientific approach, language development, 5-6 y.o. children, R&D*

## 1. INTRODUCTION

Education for early childhood is very important because it is the basis for the formation of personality and all aspects of its development. Early childhood is a natural learner, children can learn through anything and are very happy to learn. Masitoh [2005: 11] revealed that education in kindergarten is a form of early childhood education which has a very important role in developing children's personalities and preparing them for further education. Early childhood has a process of development and rapid growth, this age is often called the "golden age" (golden age) which only comes once and will not be possible to repeat again, because at this time all aspects of developing rapidly and very decisive for development human quality at a future age. There are six aspects of early childhood development namely

cognitive development, social emotional, moral, religious values, physical motor, arts and language [1,2,5].

Children learn according to the stage of maturity and development of thought, so that children can not be forced. Children start from concrete to abstract things, giving the right stimulus can provide meaningful learning for children. In addition, the atmosphere of learning still tends to be authoritarian with the teacher as the center of learning activities and is not democratic. Teaching strategies are not in accordance with the principles of learning for children such as active learning by involving children in activities that see, hear, touch and manipulate. In this context, the results of observations and interviews with children and teachers show that what is happening to children today is still

low, namely that there are still many children who are less able to use simple language so that they are less able to respond and express language in their daily lives as expected. This is marked by the fact that there are still children who are not fluent in speaking, including: the child has not dared to appear to tell stories or ask questions in front of his friends or in front of the class, the child is still unable to connect and repeat the conversation because of the lack of listening behavior of children towards what they have heard, and the child still passive when asked to speak. Based on the problems experienced by the children above, the role of the education unit is very dominant in determining the quality of education. The quality of education can certainly be improved through effective learning processes. Every school should be able to design and prepare the learning process carefully and always pay attention to the development and needs of children. The preparation of the learning process that is designed is inseparable from the teaching materials used in each learning process. The success of a learning process is largely determined by teacher competence. The teacher must be able to design and carry out learning as needed, fun and interesting. Parents and teachers as people who are responsible for the development of children's language, must understand the characteristics of children's learning in terms of age and individual suitability. Both of these are considered important because they have implications for children's learning and teaching activities. Then it takes a learning atmosphere, media, teaching materials, strategies and stimuli that are appropriate to the child's needs, so that the child's growth and development are optimally achieved. Various strategies through teaching materials can be done by teachers in influencing language development in early childhood. The selection of methods, strategies, media and approaches in the learning process must be in accordance with the theme and learning material. One approach in the process of early childhood learning is a scientific approach. There are several stages in the scientific approach, namely observing, asking, gathering information, reasoning and communicating. A scientific approach can build creativity, imagination, and ideas that can develop religious and moral values, motor skills, cognitive, language, social emotional and arts. [3].

Language development is one of the important skills to be developed and requires a specific strategy, because language is one of the most important things in children's lives, with language children can interact with

others and discover many new things in the environment. With language also children are able to pour an idea or ideas against their desires, with language really determines whether or not the relationship with others. Schools are one of the greatest sources of experience that can influence a large part of children's language development.

According to data from the child hospital development clinic. Dr. Kariadi [in Riandi Marisa, 2007: 2] during 2007 in the Child Growth and Polyclinic found 22.9% of 436 new visits came with complaints of late talking, 13 (2.98%) of whom had language development disorders. Developmental delays in early language skills can affect various functions in daily life.

The use of appropriate language learning methods and in accordance with the characteristics of early childhood development is the key to the effectiveness of learning. [Kurnia, 2015: 63]. But unfortunately, the majority of learning in kindergarten still uses conventional methods, is academic in nature and is far from playing atmosphere.

In this case, the teacher has a strategic role in the success of education. The teacher must have a collection of various teaching strategies and methods

One way that teachers can do to develop students' abilities is to develop teaching materials [6-8]. According to Mas'ud [2008: 214] that teaching material is learning material that is directly used for learning. The ability of teachers to develop teaching materials related to pedagogical and professional competencies as listed in the attachment to the Minister of Education Regulation Number 16 of 2007 concerning Academic Qualification Standards and Teacher Competencies. Teachers as professional educators are expected to have the ability to develop teaching materials according to existing mechanisms by paying attention to the characteristics and social environment of students.

By seeing the importance of developing teaching materials in early childhood learning in children's language development, the authors wish to conduct research. So from this the authors use teaching materials to develop language, by developing existing learning materials. Where teaching materials are used using a scientific approach and is an activity that emphasizes the ability of children to train children in all aspects of its development, but in depth is emphasized for the development of the discussion presented in the form of teaching materials in the form of activity books for

children aged 5-6 years. Presented using a scientific approach and language and materials used that are found in real life. So that children more easily understand and add information and knowledge of children independently. Because in a scientific approach children can learn from several stages that help children in stimulating their development, such as observing, asking, reasoning, gathering information, communicating all the behaviors or activities they experience. This teaching material will be packaged with goals such as gaining insight, gaining inspiration and understanding, developing language skills and training children to talk in a pleasant atmosphere. Language represents objects and ideas, so with a lot of talking and speaking, vocabulary of children will increase tremendously, aspects of language development play a very important role and are characteristic of child development among various aspects of its development. With the help of developing teaching materials that are communicative and interesting to use. So the authors hope that by developing teaching materials and integrating teaching materials based on scientific approaches can achieve optimal results and appropriate and effective teaching materials in helping children to stimulate language development.

So that it can be ascertained that the existence of scientific-based teaching materials will have a positive impact on everyday life, such as:

First, it is expected to explore feelings. Second, gain insight into attitudes, values and perceptions. Third, can develop children's language skills by communicating with others. Train the child's catching ability by processing the information that has been collected both limited from the results of information gathering activities. This activity is carried out to find the linkage of one information with other information, find patterns of linkages of that information. Fourth, train children to speak fluently in daily life. By expressing or communicating what is done through writing or telling what is found in the activities of finding information, associating and finding patterns, and training the child's thinking and language skills in communication.

Language development can be marked by an increase in the ability to master communication tools, both communication tools by verbal, written, and with signs and conditions. language represents objects and ideas, so with a lot of talking and speaking, vocabulary of children will increase tremendously. aspects of language development play a very important role and are

characteristic of child development among various aspects of its development. As well as the development of teaching materials can achieve the planned objectives in accordance with the growth and development of children.

## **2. METHOD**

The method used in this research is the research and development (R&D) method. As explained by Sugiyono in his book [Sugiyono, 2015: 407] that the research and development (R&D) method is a research used to produce certain products and test the effectiveness of these products.

This method is used because it develops learning materials and activity sheets for group B children, with the theme of Plant based on Curriculum-13 which in its application of K-13 Early Childhood Education demands a change of old mindset to a new mindset. Learning is carried out with active activities where children do many things to gain experience through scientific teaching materials. And thus the classroom is not the only primary place of learning for early childhood. Learning is carried out with active activities where children do many things to gain experience through scientific processes in improving children's language development

## **3. RESULT AND DISCUSSION**

The product developed in this research is in the form of teaching material based on a scientific approach in which there is material with the theme of God's Creation Plant. Information gathering is carried out in several stages. This is to determine the learning needs, including the suitability of learning needs with the applicable curriculum, and the stages of student development. The steps taken in this stage are literature study and field study. Literature study produces information about the characteristics of teaching materials based on a scientific approach, while the field study stage includes: curriculum analysis, student analysis, and material analysis. At this stage the researcher determines that teaching materials will be developed by referring to the Permendikbud 137/2014 Curriculum which is currently only being implemented in the RA. However, in the future this 2013 curriculum will be used in education. Students who were targeted for the development of teaching materials were children of group B (ages 5-6 years old) Raudhatul Athfal Al-Mahabbah Batangkuis. The material for teaching materials based on a scientific approach is the Plant of God's Creation. [4].

After collecting information, a general description of the teaching material to be developed is obtained, the next step being development planning. The planning stage of developing teaching materials still refers to the information gathering stage. The target has been set namely the children of group B (ages 5-6 years) Raudhatul Athfal Al-Mahabbah Batangkuis. The steps in the planning stage include: analysis of core competencies and basic competencies; analysis of learning material; compile a map of needs; determine the title of teaching materials, and make product evaluation grids. Furthermore, at this stage, a preliminary study is carried out in the form of observation to gather preliminary information. This is done for the development of children's language towards teaching materials based on scientific approaches. The first time conducted by researchers to identify and explore needs, namely by spreading sheets of language skills observation to children.

Based on the validation results of the Validator experts, it was proven that the material validation expert gave an assessment of 88.85% of the teaching material products, the design expert gave an assessment of 60% and the linguist gave an assessment of 90.27%. From the overall assessment given by the validator, the product has the feasibility to be used as teaching material to improve children's language skills.

Based on the calculation of the pretest and posttest scores of children's language skills development, the value increased by 57.28%, so according to Sugiyoni [2015: 137 states that the scores obtained in the good category, which means there is an influence of teaching materials based on scientific approaches to children's language skills.

So the use of teaching material products based on scientific approaches is effective in improving the development of children's language skills at Raudhatul Athfal Al-Mahabbah Batangkuis.

Based on the calculation of the pretest and posttest scores of children's language skills development, the value increased by 57.28%, so according to Sugiyoni [2015: 137] states that the scores obtained in the good category, which means there is an influence of teaching materials based on scientific approaches to children's language skills. [9].

So the use of teaching material products based on scientific approaches is effective in improving the

development of children's language skills at Raudhatul Athfal Al-Mahabbah Batangkuis.

Based on the results of observations that have been made, the teacher uses teaching materials based on a scientific approach to improve children's language development. But before the use of scientific-based teaching materials, researchers conducted an analysis of the problem and the need to gather information (KI and KD analysis, and observations of teaching materials in textbooks that have been used. Early childhood is observed for the early stages of children's language skills. This can be used as a benchmark about the objectives to be achieved in the use of teaching materials in order to maximize the development of language skills of early childhood, especially in Raudhatul Athfal Al-Mahabbah Batangkuis.

Language development can be marked by an increase in the ability to master communication tools, both communication tools by verbal, written, and with signs and conditions. language represents objects and ideas, so with a lot of talking and speaking, vocabulary of children will increase tremendously. So from this the researchers used teaching materials to develop language, by developing existing learning materials. Where teaching material used is an activity that emphasizes the ability of children to train children in all aspects of their development, but in depth is emphasized for the development of the discussion presented in the form of teaching materials in the form of activity books for children aged 5-6 years. Presented using a scientific approach and materials and materials used that are available in real life. So that children more easily understand and add information and knowledge of children independently. Because in a scientific approach children can learn from several stages that help children in stimulating their development, such as observing, asking questions, reasoning, gathering information, communicating all the behaviors or activities they experience. With the help of developing teaching materials that are communicative and interesting to use. So researchers hope that by developing teaching materials and integrating teaching materials based on a scientific approach can achieve optimal results and appropriate and effective teaching materials in helping children to stimulate language development. So, that it can be ascertained that the existence of scientific-based teaching materials will have a positive impact in everyday life, such as being able to explore feelings, gain insight into attitudes, values and perceptions, be

able to develop children's language skills by communicating with others, train children to speak fluently in everyday life, and to train children's thinking and language skills in communication.

Testing at the limited or small group trial stage was carried out at RA Al-Mahabbah in class B group aged 5-6 years as many as 9 children. Implementation This limited trial was conducted at the second meeting after the initial meeting conducted learning with the use of teaching materials based on a scientific approach to some children in class B. And extensive field trials were conducted at RA Al-Mahabbah in the same class, group B aged 5-6 years as many as 20 children. Implementation This extensive trial was conducted at the fourth meeting after the third meeting learning was carried out with the use of teaching materials based on a scientific approach by all children in group B. The learning activities were carried out by the class B teacher and the researcher's task in learning activities was as an observer to assess the observation sheet that has been provided. This stage aims to determine the feasibility of the product to be used, whether good or not used as a textbook. To find out the children's response to teaching materials that have been developed, then after completing a limited and extensive trial at the end of the meeting the researcher asked the children as a whole verbally. And overall the response of the children was very fond of the teaching material they got during learning, they thought that the teaching material used was interesting and easy to understand.

Based on the results of trials from all aspects of the assessment assessed by Material Experts at 88.85%, aspects of the assessment assessed by Design Experts by 60%, and overall aspects of assessment assessed by Design Experts by 90.27%. From all aspects of the assessment we can know that the product of teaching material based on scientific approach is feasible to be used as a testing tool in improving language skills of children aged 5-6 years at Raudhatul Athfal Al-Mahabbah Batangkuis.

We can conclude that there is an increase in children's language skills by 70.86% of the pretest value. This means that in limited trials, scientific-based teaching materials are appropriate for use in improving children's language skills.

#### 4. CONCLUSION

Based on the results of the research analysis and discussion, several conclusions can be obtained as follows:

- In limited trials the development of children's language skills increased by 70.86% and in the field trials the broad development of children's language abilities increased by 58%. This proves that scientific-based teaching materials can improve the language development of children aged 5-6 years in RA Al-Mahabbah.
- Teaching material based on scientific approach is appropriate to be used to improve language development of children aged 5-6 years in RA Al-Mahabbah. Evidenced by the results of the overall trial aspects of the assessment assessed by Material Experts at 88.85%, aspects of the assessment assessed by Design Experts at 60%, and overall aspects of the assessment assessed by Design Experts at 90.27%.
- Teaching material based on an effective scientific approach to improve language development of children aged 5-6 years at RA Al-Mahabbah. Proven from the calculation results obtained a Significant value of 0,000 <0.05 then H<sub>0</sub> is rejected and H<sub>a</sub> is accepted, then there is an average difference between children's language abilities from the results of pretest and posttest, which means there is an influence of teaching materials based on scientific approaches to children's language abilities.

#### REFERENCES

- [1] Kementerian Pendidikan dan Kebudayaan. (2015). *Pedoman Pengelolaan Pembelajaran PAUD*. Jakarta: Direktorat Jendral Pendidikan Anak Usia Dini dan Pendidikan Masyarakat
- [2] Masitoh. (2005). *Strategi Pembelajaran*. Jakarta: Universitas Terbuka
- [3] Munastiwi Erni. (2015). Implementasi Pendekatan Saintifik Pada Pembelajaran Anak Usia Dini: *Jurnal Pendidikan Anak*, Vol.13, No.1 (online), (<http://ejournal.uinsuka.ac.id/tarbiyah/alathfal/article/view/1087>, diakses 6 Maret 2018)
- [4] Peraturan Menteri Pendidikan Nasional Nomor 137 tahun 2014 ([https://luk.staff.ugm.ac.id/atur/bsnp/Permendikbud\\_137-2014\\_Standar\\_Nasional\\_PAUD.pdf](https://luk.staff.ugm.ac.id/atur/bsnp/Permendikbud_137-2014_Standar_Nasional_PAUD.pdf)). (online).pdf. Diakses tanggal 6 februari 2015
- [5] Peraturan Menteri Pendidikan Nasional Nomor 146 tahun 2014. *Tentang Kurikulum 2013 Pendidikan Anak Usia Dini*. Jakarta: Depdiknas.

- [6] Hanum Anas, L., Rajagukguk, J., & Bunawan, W. (2020, March). Video Technology Media based on Heat and Temperature to Improve of Learner Critical Thingking. In *Journal of Physics Conference Series* (Vol. 1485, No. 1, p. 012037).
- [7] Khairani, N. A., & Rajagukguk, J. (2019). Development of Moodle E-Learning Media in Industrial Revolution 4.0 Era. In *4th Annual International Seminar on Transformative Education and Educational Leadership (AISTEEL 2019)*. Atlantis Press.
- [8] Sinaga, B., Sahyar, S., Gurning, B., Simanjorang, M., & Rajagukguk, J. (2019, January). Compliance of Higher Education National Standard in Field of Learning: Case Study on Postgraduate School Universitas Negeri Medan. In *1st International Conference on Innovation in Education (ICoIE 2018)*. Atlantis Press.
- [9] Sugiyono. 2015. *Metodologi Penelitian Pendidikan*. Bandung: Alfaberta