Developing Scientific Based Pop Up Media for Children Speaking Skill Development

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ABSTRACT

Learning media is growing with many variations. However, learning media that are devoted to the development of speaking skills in children aged 5-6 years using a scientific approach are very limited. The innovation of learning media in Early Childhood Education should be encouraged. The purpose of this research is to produce a scientific-based Pop-Up Book to improve children's speaking skill. This research is a research and development (R&D) with aims to produce the pop up media that can be implemented for speaking activities. The data collection techniques used are observation, and questionnaires. Then data will be analyzed to determine the level of effectiveness, accuracy and attractiveness of the product. The result obtained from this research is the production of Pop-up Book media that can help improve child speaking skill.

Keywords: Pop-up, Scientific, Speech

1. INTRODUCTION

Early childhood education is a fundamental forum in providing the framework and development of the foundation of a child's life. Education is the right target in helping children facing life's problems, where education provides readiness for children to be able to enter the community [1].

Fundamentally, education is regulated in law No. 20 of 2003 Article 1 Paragraph 1 concerning the National Education System, explaining that education is a conscious effort in realizing an active learning system in developing the potential that exists in children so that they have religious strength, self- control, and a strong personality. needed himself in society and the State [2].

In the Guidelines for Teaching Early Childhood Education from the Ministry of Education and Cultures [3] it explains that the scientific approach is a way of thinking so that children have the ability to study through the process of observation to communicating the results of thoughts. One of aspects development that should be stimulated is language. Several factors affect the development of children's Language, namely; intelligence, health, environmental conditions, gender [4]. language is a series of sounds that symbolize thoughts, feeling, attitudes and become a means of communicating, speaking is intended to inform, convey, entertain and believe someone so that intentions can be

conveyed properly. At the age of 5-6 years is a time when children can say clear and fluent words, can compose their own sentences and can explain the meaning of the word [5]. Vulnerable aged 5-6 years, children are able to pronounce about 2,500 more vocabularies which include color, size, shape, comparison etc [6]. According to Anitah in the selection of learning media, several factors must be considered, namely objectives, quality, availability, cost, effectiveness, and human resource capabilities [7]. One of the learning media that can help the development of children's speaking skill and contains scientific information is the pop-up book media. Where the pop-up book media is a two/three-dimensional book which when opened there is a page that can move on its own. Pop-up book media can be used as media that can foster children's interest in reading [8], the uniqueness of pop-up book media can be useful in the learning process. When carrying out the daily learning process day, the teacher is required to prepare all the tools used in the learning process, unique to the daily activity plan, because based on this design the teacher can take action in the learning process in one day [9]. Pop-up book media can be used to convey various stories, starting from the development of scientific knowledge such as; regarding animals, geographical layout, natural events, culture, religious activities, fairy tales, fable and others, however, there are still few pop-up books circulating in the market, especially for early childhood education,

especially for scientific-based learning. The high cost and the use of foreign languages have resulted in the use of pop-up book media being rarely used as a learning medium. The development of pop-up media for early childhood learning has also been done a lot, but nothing is scientifically based. These developments mostly contain themes on thematic learning for secondary schools, this shows that there is still a lack of interesting media for learning for early childhood.

2. REVIEW OF RELATED LITERATURE

2.1. Children's Speaking Ability

2.1.1. Understanding Children's Speaking Ability

In aspects of children's language development include listening, speaking, writing, and reading [9] Speech is a systematic sound production which is the result of combining two activities, namely motor activities and cognitive processes [10]. Talking is a way of communicating between people. According to the Ministry of Education and Culture [7] speaking is the conveying of intentions (ideas, thoughts, ideas, or heart content) from one person to another by using language so that the intention can be understood by other people.

Hurlock [11], speaking can be obtained by children in two ways, namely imitating, both from peers and from people who are older and the second way, namely training with guidance from adults. Speaking ability is the ability to pronounce sounds, articulations or words to express ideas and feelings [12]. Vygotsky and Piaget explained [13] that children's language development is closely related to cognitive development. [14] language development cannot be separated from the development of brain function, where the brain has a fundamental function in the human biological structure. Meanwhile, according to Chomsky [15] there are innate characteristics of language to explain the acquisition of native language in children is liked to a "black box" in the brain.

There are several components determined to children's speech development includes vocabulary, syntax (grammar), semantics, phonemes (sounds of words) [16]. However, grammar and vocabularies are the predominant aspect to children's fluency in speaking. Children who have good vocabularies, and grammar help them to produce sentences appropriately to the target language so that children sentences can be accepted and semantically derive meaningful utterances.

2.1.2. Indicator of Achievement of Speaking Ability for Children aged 5-6 Years

Rahimah said that there are Levels of children's achievement in expressing language, name: 1) Giving answers to more complex questions. 2) Name a group of pictures that have the same sound. 3) Communicate

verbally, have vocabulary, write and count, and recognize symbols in preparation for reading. 4) Arrange simple sentences into complete structures. 5) Have more vocabulary to express ideas to other people. 6) Continuing some of the stories/tales that have been heard [17].

In addition, the level of achievement of the ability to express the language of children aged 5-6 years according to Ministry of National of Education Republic of Indonesia rule No 136 (2014) is:

a. Name a group of pictures that have the same sound

b. Understand the concepts in story books

c. Communicating verbally, regarding symbols for preparation for reading, writing and counting

d. Answer more complex questions

e. Continuing some of the stories/fairy tales that have been heard

f. Arrange simple sentences in a complete structure (main sentence-predicate-description)

g. Having more words to express ideas to others

2.1.3. The Purpose of Learning Speaking in Early Childhood

According to Iskandarwasid the purpose of speaking according to linguistic level for children aged 1-6 years, namely: 1) Interpreting language sounds, 2) Expressing agreement or disagreement with something, 3) Conveying information received, 4) Explaining one's identity to others. other people, 5) Retell the story heard, 6) Express respect, 7) Role play [18].

Hartono [19] there are five goals in developing children's speaking skills, namely: 1) Have a vocabulary that is sufficient for communication, 2) Interested in connecting written language and written language, 3) Able to express opinions and attitudes with appropriate language, 4) Willing to listen and understand the words and sentences used or received, 5) Interested in using language well.

2.1.4. Factors Affecting Children's Speaking Ability

According to Yasud in Astuti, the development of children's speaking skill is influenced by 5 factors, namely: 1) Cognition, 2) Communication Points, 3) Number of family members, 4) Birth order [20].

A child's speaking ability can develop well if all the factors that affect a child's language development can be developed properly and continuously.

2.1.5. Speech Ability Function

According to Agustina speaking functions as folIows:1) Satisfying wants and needs, 2) Means of attracting the attention of others, 3) Means of fostering social relations, 4) Means of self-evaluation, 5) To influence the thoughts and feelings of others, 6) To influence the behavior of others.

2.2. Media Pop-up Book

2.2.1. Definition of Learning Media

According to experts, learning media are tools, materials, methods or techniques used by teachers to convey information so that learning objectives can be achieved perfectly [21] Meanwhile, according to Kurniawati media are tools used to stimulate the senses so that the learning process can take place [10]. Learning media can also be interpreted as a tool used by communicators to be conveyed to the communicant [22]. Dewanti's opinion (2018) that learning media are all things used to convey the content of learning materials to facilitate the learning process [23].

There are several principles in its use [7] including:

a. Learning media must be seen as a learning resource that is used to solve problems faced by students in the learning process.

b. The use of learning media is an important part that must exist in a learning process, not only as a tool used.

Teachers can use beneficial multimedia learning media so as to facilitate the teaching and learning process and can stimulate children to be active in learning activities.

2.2.2. Benefits of Learning Media

The benefits of learning media for teachers and students [20] are:

2.2.2.1. Benefits of learning Media for Teachers

a. Describe the structure and sequence of learning well

b. Provide guidelines, directions to achieve Learning objectives

c. Facilitate teaching about teaching materials

d. Improve teaching quality

e. Provide and increase learning variations

f. Provide fun learning conditions and situations

2.2.2.2. Benefits of Learning Media for Students

a. Increase children's learning motivation

b. Make it easy for students to learn

c. Stimulate students to think and analyze

d. Learners can understand learning systematically.

Miarso [22] suggests that media have the ability or skills to: 1) make abstract concepts concrete, 2) bring objects that are dangerous or difficult to obtain in a learning environment, 3) display objects that are too large, 4) display objects that cannot be obtained. observed directly, 5) Observing objects that are too fast, 6) Allowing students to interact directly with the environment, 7) Possibility of uniformity of observation and perception for students' learning experience, 8) Generating learning motivation, 9) Giving the impression of individual attention to the whole group learning, 10) Presenting information consistently and can be retrieved or stored as needed, 11) Presenting learning information simultaneously, overcoming time and space constraints, 12) Controlling the direction and speed of students' learning.

2.2.3. Types of Learning Media

According to [24], he explained that there are six basic types of learning media, namely:
a. Text, the basic element in conveying information that has various types and forms of writing that seeks to provide attractiveness in conveying information.

b. Visual media, media using pictures/photos, sketches, diagrams, charts, graphs, cartoons, posters, pop-ups and others.

c. Audio media helps students' understanding by including background sounds, music, or other sound recordings.

d. Projection media, including motion films, TV programs, CDs, DVDs, projectors and others [24].

2.2.4. Pop-Up Book

[21] explain that Pop- ups are designed with attractive colors, three- dimensional shapes, the pictures are interesting, unique, and give a distinct impression so that children will be more enthusiastic about participating in the learning process [25]. Linguistic intelligence can be developed through various media that are effective and interesting for children [26]. [26] stated that pop-up books are

a pop-up book is a book that offers the potential for motivation and interaction though the use of paper mechanisms such as folds, scrolls, slide, tabs, or wheels [24].

The use of pop-up books can increase children's motivation to learn with the mechanism of the book when it is opened which causes a surprise. Based on the

description above, it can be concluded that pop-up media is a learning media in the form of a book with pictures that can move when opened so that children will be more interested in the learning process.

2.3. Benefits of Pop-up Book Media

The benefits of Pop up book media are:

a. Stimulate imagination and cultivate children's creativity

b. Give pleasure in reading stories

c. Increase children's knowledge to give an introduction to the shape of an object

d. Children can interact with the story that is conveyed either through observation or through touch.

According to Bluemel and Taylor, the uses of Pop-up media are:

a. To develop children's love of reading

b. Can be used to think critically and develop children's creativity

c. Can capture meaning through interesting picture

d. Encourage the desire to read [27]

The application of pop-up book media in learning activities is adapted from the application of big-book media. [27] explains that the application of big- book media is as follows: 1) Creating a comfortable atmosphere for children, 2) Showing books to children, 3) Asking questions to children about the things they are seeing, 4) Asking children to children to express their personal reactions to the book, 5) listen carefully to what the children say and do [32].

2.3.1. The Advantages of Pop-Up Books

The advantages of pop-up cards can provide a more interesting visualization of the story starting from an illustration display that has dimensions , images that can move, and are able to change shape [28] [29]. According to Astuti [20]that the pop-up book media can direct experience for students and the objects displayed look like real.

2.3.2. Stages of Using Pop-up Book Media

The use of pop-up book learning media in learning activities can be divided into 3 stages consisting of:

2.3.2.1. Preparation Stage

The pop-up book learning media is made in the form of parallel folder. Making it in the form of parallel folds can make it easier for teachers to adjust the learning theme by replacing the content contained in the pop-up

card with learning materials so that they can be unmounted.

2.3.2.2. Implementation Stage

The application of big- book media is simplified as follows [27]:

a. Create a comfortable atmosphere for children

b. Showing books to children

c. Asking questions to the child about what the child is seeing

d. Ask the children to express their personal reactions to the book.

e. listen carefully to what the children say and do [18].

2.3.2.3. Closing Stage

The teacher provides reinforcement of learning materials to children by asking questions to children and giving conclusions to children.

2.4. Scientific Approach

2.4.1. Understanding Scientific Approach

Guidelines for the Management of Early Childhood Education from the Ministry of Education and Culture the scientific approach is one approach in building a way of thinking so that children have the ability to learn which is obtained through the process of observing to communicating the results of their thoughts [18].

Scientific approach is intended to provide understanding of various materials using a scientific approach that information can come from anywhere, anytime, and from anyone, not depending on one direction from the teacher as an educator.

The scientific approach aims to foster scientific attitudes, the surrounding environment, and refer to intellectual intelligence. Learning by using scientific approach is characterized by its ability to create new inventions, creative, innovative, dynamic, and progressive. Therefore, it is hoped that after graduating, children are able to compete, open to the development of science and technology. In addition, it can create and utilize appropriate technology to build the nation and state. This potential can be instilled from an early age through learning based on a scientific approach (Munastiwi, 2015).

Meanwhile, according to Daryanto (2014) the purpose of the scientific approach is based on the advantages of the approach. Some of the objectives of learning with a scientific approach are: 1) To improve intellectual abilities, especially children's higher order thinking skills, 2) To develop children's ability to solve a

problem systematically, 3) To create learning conditions in which children feel that learning is a necessity. 4) Obtaining high learning outcomes, 5) To train children in communicating ideas, and 6) To develop student characteristics.

2.4.2. *Benefits of Scientific Approach*

Learning using a scientific approach is applied to continue children's learning (MoNE, 2015). This is important to help children understand the world around them. The benefits that children can feel when learning using a scientific approach includes the following (MoNE, 2015, p. 18): 1) It is easier for children to accept, 2) Scientific approach is more meaningful for children, 3) It is more fully accepted by children, 4) It is more closely related to the child's behavior, 5) Scientific approach reduces verbalism (avoiding the teacher explaining too much verbally), 6) It is easier for children to apply, 7) Children are more appreciative of the abilities they have acquired, and 8) Children are more confident, 9) Children are more proud of their abilities by using scientific approach. 10) Learning abilities are obtained more permanently.

The scientific approach has broad benefits, both when the learning process takes place, as well as the results after the child does the learning. When learning takes place, the scientific approach is useful so that children feel more interested and think learning is something fun, while the long-term benefits that children can get in addition to cognitive intelligence, children also have spiritual intelligence that will be useful in social life in the future.

3. RESEARCH METHOD

The research design is research and development (R&D) research. Development research is oriented to the development of educational products that can be used in developing and validating educational products based on development procedures according to the system developed by Borg & Gall (1983). Data collection techniques using validation, observation, and questionnaires and data analysis employed to determine the level of effectiveness, accuracy, and attractiveness of the development product in the form of scientific-based pop-up book learning media.

4. RESULTS AND DISCUSSION

This research is expected to provide a variety of learning media so that children become more enthusiastic in participating in learning and improve children's speaking skill. This research is in the initial stage, namely in the form of collecting related sources that will be used as reinforcement for the media to be produced. The collected sources aim to adapt the product

to the level of developmental achievement of children aged 5-6 years.

5. CONCLUSION

The conclusion obtained from this article is through the creation of a pop-up book media, which is expected to help improve the speaking skill of children aged 5-6 years. The media produced is in accordance with developmental achievements and the learning curriculum in Kindergarten.

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