Development of Abacus Learning Media to Stimulate Early Reading Ability For Early Childhood

[1]Umi Faizah*, [2]Wulan Fitriani, [3]Setyoadi Purwanto

Email: *[1]faizahumi555@gmail.com

Sekolah Tinggi Pendidikan Islam (STPI) Bina Insan Mulia Yogyakarta

ARTICLE INFO	ABSTRACT
Keywords Beginning Reading, Learning Media, Abacus of Words	The background of the problem in this research is the lack of variety of learning media that can be used by teachers in the classroom to stimulate early childhood reading skills, there are still many teachers who use textbooks as the main guide so that children become bored and bored in early reading activities, to It is necessary to develop learning media to stimulate early childhood reading abilities. The method in this research is the research and development method. Data collection techniques use questionnaires, interviews, observation and documentation. The research subjects were students from group B of KB Zanjabila Condongcatur Depok Sleman, totaling 12 students. The data analysis technique uses qualitative descriptive analysis techniques. The results of research and development show that; (1) development design for word abacus learning media, namely by making word abacus media designs and letter cards, making prototypes of word abacus learning media, making game designs, instruction books, identification stickers and mascots through the Canva application, sticking to designs that have been printed, media abacus learning words ready to use; (2) the stages of using the word abacus learning media are divided into 2 variations of the game, namely TSC (guess-arrange-match) and THA (guess the initial letter) (3) the feasibility of the word abacus learning media based on the overall average score of the validators is 4.3. It was concluded that the word abacus learning media is very feasible and can be used to stimulate early reading skills for young children.

Introduction

Reading is one of the language skills, reading is essentially a complex thing and involves many things, not only reading text, but also visual and thinking activities (Ngatin, 2019). The first step in the reading process is to do the beginning reading activity. Beginning reading is a cognitive process that begins with recognizing letters, numbers, and symbols. It can be said that beginning reading is a child's activity in initiating letter recognition activities through symbols. In terms of cognitive processes, preliminary reading is performed (Yani, 2019). Initial reading is an early stage in learning to read which is focused on recognizing the symbols or signs associated with the letters

so that it becomes a foundation so that the child can continue to the initial reading stage (Muammar, 2020). Beginning reading places more emphasis on the recognition and pronunciation of symbols consisting of letters, words, and simple sentences. Beginning reading is an integrated unit of activity that includes several activities such as recognizing letters and words, relating them to sounds, their meaning, and drawing conclusions about the meaning of the reading (Rahmawan, 2017).

The ability to read beginning is the ability to voice letters, syllables, words and sentences presented in oral form. The child begins to combine the sounds of letters into syllables and words that bring out the meaning of the words (Nahdi et. al, 2020). Related to beginning reading, it seems to have many difficulties associated with early reading skills in early childhood. This difficulty can be seen from the lack of variety of media used by teachers in stimulating children's early reading skills, there are still many teachers who use textbooks in the classroom and learning methods using the driliing method, resulting in children experiencing boredom in learning. Therefore, learning media are needed that can support children's development in accordance with the stages of early childhood learning. Go through simple use of symbols and sounds in sentences. Interesting learning media will help facilitate the communication process between teachers and children, can interact directly in the learning process and interesting media will make children not easily feel bored and can also stimulate children's interests, talents and mindsets so that learning activities can be achieved as expected (Mulyani, 2022).

Learning media consists of two words, namely the words ``media" and "learning". The word media literally means intermediary or introduction; While the word learning is interpreted as a condition to help someone carry out the process of learning activities, with the aim of making it easier for teachers to convey messages and orders to students (Kristanto, 2016). According to AECT (Association of Education and Communication Technology), media are all forms and channels used to convey messages or information, meaning that by using media, information is expected to be conveyed properly, quickly and precisely (Arsyad, 2019). Learning media are all forms of intermediaries that support learning activities between teachers and students. It was also explained in full by Sadieman et al that learning media is everything that can be used to send messages from the sender of the message to the recipient. This aims to stimulate students' thoughts, feelings, attention, interest, and enthusiasm for the education and learning process (Yusniastuti, 2021). Seeing the importance of learning media in the learning process, in developing early childhood reading skills, good learning media is needed and can help teachers in learning activities so that children do not feel bored and can reduce the use of reading package books in the classroom.

The learning process as an important instrument in society (Rahman, 2016), plays a role in increasing intelligence and stimulating learning (Rahman, 2015). This factor is usually supported by the tradition of the learning environment in cultivating children's intelligence (Rahman, 2016;

Gusman et. al, 2023). This context is important to include in learning for teachers (Sari et. al, 2023), thereby enabling educational policies with all their challenges to influence learning (Rahman, 2023). The development of learning methods in education has long been exemplified by various Islamic schools such as Muhammadiyah (Rahman, 2019), Ma'arif, Persis, and other Islamic schools. Meanwhile, Islam, which originates from its teachings in the Qur'an (Yusroh, 2018), in developing learning methods and models including the ability to read

The learning media that will be used in this study is the word abacus learning media, which is a development of abacus which is generally for counting. Word abacus learning media is a development media from abacus learning media that is used to facilitate children in stimulating children's early reading skills. The abacus learning media can increase the variety of media used by teachers and make it easier for teachers to stimulate early childhood reading.

Method

The form of research used in this study is the RnD (Research and Development) method. According to Borg & Gall, research and development steps can be carried out in 10 steps, namely as follows: (1) potential and problems, (2) data collection, (3) product design, (4) design validation, (5) product revision, (6) product trials, (7) product revisions, (8) product trials, (9) final product revisions and time and financing owned by researchers. The Abacus learning media trial was carried out 2 times with limited test subjects in Tlogowono Tegaltirto Berbah Sleman Hamlet with 6 children, consisting of 4-6 years old. While further product trials were carried out on children aged 5-6 years in group B KB Zanjabila Condongcatur Depok Sleman.

This method of data collection in research and development uses questionnaires, interviews, observations and documentation. Questionnaires are used as a reference for validation by validators. This validation is used to measure the cockroach or validity of media and material, so that from the questionnaire given from validators it can be known the feasibility of media products that have been made. (10) mass production. 10 Of the 10 steps developed by Borg & Gall, researchers can only reach stage 6, namely product trials due to limitations

Data analysis in this study is using qualitative descriptive analysis techniques. By describing the results of questionnaires, interviews, observations and documentation.

Table 1. Score average conversion table

Value	Criteria	Intervals Average Score
A	Very Good	4,2 < X
B	Good	3,4 < X < 4,2
C	Good Enough	2,6 < X < 3,4
D	Bad	1,8 < X < 2,6
E	Very Bad	X < 1,8

Result and Discussion

1. Abacus Learning Media Development Procedure

The results obtained in the research on the development of abacus learning media to stimulate early reading skills at the age of 5-6 years were carried out using research and development steps taken according to Borg & Gall. Of the 10 steps developed by Borg & Gall, the steps taken only reached stage 6, namely product trials, due to time and financing constraints. The steps taken are: 1) potential and problems; 2) data collection; 3) product design; 4) Expert validation; 5) revision of the Product; 6) Product trials.

a. Potential and Problems

In general, the problems found in stimulating early childhood reading skills are the lack of variety of learning media that can be used by teachers in the classroom, there are still many teachers who use textbooks as the main guide, the lack of interesting learning media and learning activities that still use the drilling method, so that it results in children experiencing boredom and boredom in early reading activities

b. Data Collection

Data collection in this study used literature studies from various book and journal sources and conducted interviews with various teachers related to learning media used in the classroom in stimulating early reading skills in early childhood. From the results of the literature study and interviews, it can be concluded that a variety of learning media are needed that teachers can use to stimulate children's early reading skills.

c. Product Design

At this stage, researchers use the SCAMPER method developed by an expert educational administrator named Bob Eberle. SCAMPER stands for Substitute,

Combine, Adapt, Modify, Put to Another Use, Eliminate, and Reverse. In this case, researchers focus on the Put to Another Use stage, namely how to utilize abacus learning media with other uses.

2. Design Validation

Design validation is an activity process to assess whether product design is more effective than teaching materials that are now circulating or not. In terms of abacus learning media, words will be validated by media experts and material experts. This expert validation will use instruments in the form of questionnaires, validation of learning media, and validation of learning materials.

3. Design Revision

After a product assessment conducted by media expert validators and material experts, suggestions and input were obtained to improve the quality of learning media for abacus learning media. Based on the results of validation as well as input and suggestions from media and material experts, a redesign was carried out related to abacus word learning media products.

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Figur 1. Word abacus design comparison

Before Revision	After Revision

4. Product Trials

The abacus learning media trial was carried out with 2 trials, namely the initial trial (limited) and the final trial. The initial trial was carried out on Wednesday, July 19, 2023 with 6 children in Tlogowono Hamlet, Tegaltirto, Berbah, Sleman as test subjects The test subjects consisted of 3 people aged 4-5 years and 3 people aged 5-6 years.

Meanwhile, the final stage of the abacus learning media trial was carried out on Wednesday, July 26, 2023 at the age of 5-6 years, group B at KB Zanjabila condongcatur Depok Sleman with 12 children consisting of 5 boys and 7 girls

5. Design Validation

Design validation is an activity process to assess whether product design is more effective than teaching materials that are now circulating or not. In terms of abacus learning media, words will be validated by Mr. AK, M.Pd.I as a media expert and Dr. FS as material experts This expert validation will use instruments in the form of learning media validation questionnaires and learning material validation.

6. Stages of Using Abacus Word Learning Media

In the use of abacus learning media, there are 2 variations of games that can be used by early childhood, namely:

a. TSC Game (Charade- Stack-Match)

This TSC game is a core game in the medium of abacus words. This TSC game consists of three stages that children must do, namely children guessing words, arranging words and matching words. The stages of its use are as follows:

(1) Introduce the name of the abacus media to the child by mentioning the abacus word on the board and introducing the word card to the child.

(2) Show the word card and ask the child to guess the picture and count the number of squares present in the word card.

(3) The child is asked to guess the letters to be arranged.

(4) The child is asked to match the letters to the back view of the word card

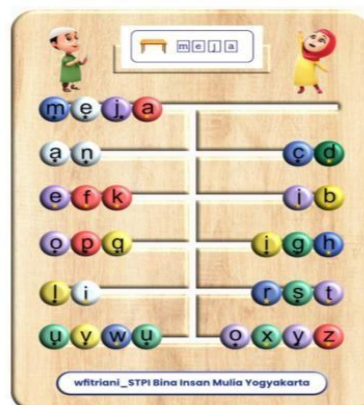(5) Children are asked to name one letter at a time

Figure 2. Display of word abacus media on TSC game usage

b. THA Game (Guess the Initial Letter)

This THA game is the second game that can be used in word abacus learning media. THA games are carried out in groups. The game consists of stages of children separating letters according to the color of the crown, children separating letters according to instructions given by researchers / teachers and children guessing word prefixes according to instructions given by the teacher, for example from objects, animals and fruits.

The stages carried out are as follows:

(1) Children are asked to group letters based on the color of the crown in each letter

(2) This activity is played by two people or groups.

(3) The child was asked to separate up the color of the letters that the researcher wanted.

(4) The child is asked to name objects, animals or fruits that begin with the letter.
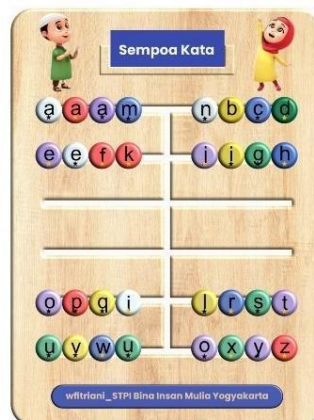
Figur 3. Display of the Use of Abacus Words in THA games

7. Feasibility of Abacus Word Learning Media

This abacus learning media is said to be feasible to use, namely by considering the results of validation by media experts, material experts, practitioners (teachers) and supported by interviews with research subjects. Here are the results of the validation of media experts, material experts, teachers and child interviews

a. Media Expert Validation Results

Media experts in learning provide media expert validation of 4.6 which means very good, while the results of material expert validation of 4.28 are also included in the very good category.

b. Practitioner Validation Results (Teacher)

The result of practitioner/teacher validation is 4, which means good. So the overall result is 4.3.

From the results of the overall validation score above, an average score of 4.3 was obtained. Thus, it can be concluded that the word abacus learning media can be said to be very good so that the word abacus learning media is worth using.

Conclusion

The feasibility of developing abacus learning media to stimulate early reading skills for early childhood has proven feasible. The average assessment of media expert validators gets an average score of 4.6 so that the assessment achieved by media expert validators gets the "very feasible" category, while the average assessment of material expert validators gets an average of 4.28, so that the assessment of material expert validators gets the "very feasible" category, then the average results of the expert assessment of practitioners (teachers) get an average score of 4, so that the expert assessment of practitioners (teachers) gets the "decent" category. And with the result of the validator's overall average score of 4.3, it can be concluded that abacus learning media is very feasible and can be used to stimulate early reading skills for early childhood.

Acknowledgement

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