

Animation Media Of Animal Husbandry Thematic Science Learning To Stimulate Scientific Attitude In Early Childhood

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Abstract: Penelitian ini berdasarkan latar belakang pentingnya pembelajaran sains pada anak usia dini, yang dapat mengembangkan seluruh aspek perkembangan anak, dengan penekannya pada sikap ilmiah anak. Adanya kendala anggapan pembelajaran sains masih terbatas pada teoritis, keterbatasan pengetahuan pendidik dan keterbatasan media pembelajaran yang berdampak pada metode untuk menyampaikan materi sains pada anak. Penelitian ini menggunakan research and development (R&D) dengan data kualitatif. Media Animasi Pembelajaran Sains Tematik Peternakan Untuk Menstimulasi Sikap Ilmiah Pada Anak Usia Dini disampaikan menggunakan metode pembelajaran cerita dan melakukan kegiatan sains untuk mengembangkan sikap ilmiah pada anak usia dini. Metode cerita sebagai metode yang menarik dan menyenangkan bagi anak usia dini karena dilakukan dengan bercerita dan melakukan kegiatan sains. Media Animasi Pembelajaran Sains Tematik Peternakan pada Anak Usia Dini menunjukkan hasil baik sekali yaitu efektif dalam meningkatkan sikap ilmiah pada anak usia dini dan media ini layak digunakan. This research is based on the background of the importance of learning science in early childhood, which can develop all aspects of child development, with its emphasis on the scientific attitude of children. There are obstacles to the assumption that science learning is still limited to theoretical, limited knowledge of educators and the limitations of learning media that have an impact on methods for delivering science material to children. This research used research and development (R&D) with qualitative data. Animation media for thematic science learning in animal husbandry to stimulate scientific attitudes in early childhood is conveyed using story learning methods and conducting science activities to develop scientific attitudes in early childhood. The story method as an interesting and fun method for early childhood because it is done by telling stories and doing science activities. This research showed excellent results, which is effective in improving scientific attitudes in early childhood and this media is appropriate to use.

Keywords: Science animation media, animal husbandry thematic, story methods, science experiments, enhancing scientific attitudes, early childhood.

A. INTRODUCTION

Based on the results of tests and evaluations PISA (Programme for International Students Assessment) in 2015, stated that the performance of Indonesian students is still relatively low, this is seen in successive average scores of achievement of Indonesian students for science, reading and mathematics, Indonesia ranked is 62, 61, 63 of the 69 countries evaluated. This result is of course very alarming and worrying when compared to neighboring countries namely Singapore which is ranked first. Implied in our minds, how the competitiveness of future generations of the nation in the future if such conditions. One of the interesting things is the index of enjoyment of learning science, Indonesia which is quite high at 0.65 higher than the index obtained by countries that obtain high scores such as Singapore by 0.59 or even Japan -0.33. Why is Indonesia ranked below in the achievement of science learning performance? The effort to improve the performance of Indonesian students is a challenge for educators, school management, parents, students, the government, and anyone who cares about Indonesian education, especially science learning in early childhood, to jointly improve the quality of Indonesian education so that we are not far behind in terms of the nation's competitiveness from other countries. One effort that should be done is to choose the appropriate learning methods and learning media and attract children's learning interests. In fact, learning science in early childhood is constrained. One problem is that learning material is seen by students as too theoretical, lacking contextual examples.

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Based on the identification done in three PAUD institutions, namely in KB IT Mutiara Insan Cendekia 2 Boyolali Regency, Jannatul Atfal Kindergarten Salatiga City, and Bina Yoga Kindergarten Magelang District, the results show that: a) Educators and PAUD managers are still having trouble choosing material, themes, methods and media to support science learning, especially the theme of animal husbandry, b) Submission of science material does not give an impression to students and is still monotonous, c) educators do not utilize the media for the learning process, d) The learning process is still centered on the teacher so that it does not give opportunities for children to conduct various science experiments to build their own knowledge and practice solving problems. e) Stories are the most preferred method of learning for children. The method of storytelling can also increase a child's imagination, and children are trained to be critical and creative listeners. The delivery method is monotonous, lacking optimal use of various media (Dikti, 2004 dalam <http://www.fipumj.net>). Many teachers report that they feel less prepared to teach science than other subjects (Wenner 1993). Science learning in early childhood is very important to develop many aspects of child development. The importance of science in early childhood has been influenced by the desire to develop scientific attitudes and recognition of the way children build scientific understanding. The researchers recommend that science learning be introduced before children enter school, even children from birth (Eshach & Fried, 2005; Watters, Diezmann, Grieshaber, & Davis, 200). This is important to help children understand the world, gather and process information as a key basis for children learning to think scientifically (Eshach & Fried, 2005; Ravains & Bagakis, 1998). Learning in PAUD is done to achieve certain Basic Competencies (KD). Basic Competency in Curriculum 2013 PAUD are contains the ability and content of learning for a learning theme in PAUD that refers to Core Competencies. The PAUD curriculum is contained in 2014 Permendikbud No. 146. The Standards for the Level of Child

Development (STPPA) are the minimum criteria used for the development of the PAUD curriculum. The level of development achievement for children aged 4-6 years refers to 2014 Permendikbud No. 137 in the scope of cognitive development namely learning to solve problems includes showed exploratory and probing activities. While the ability to think logically includes knowing the cause and effect of the environment. Even starting to understand some abstract science concepts, but with concrete and concrete examples and direct practice. Science learning in early childhood is one way to achieve Basic Competence and Level of Achievement of Child Development. Science trains children to experiment by carrying out several experiments, enriching the child's insight to always want to try and try. So that science can direct and encourage children to be creative and full of initiative. Science accustoms children to follow the stages of the experiment. That is, science can train positive mentality, logical thinking, and order (systematic). In addition, it can also train children to be careful, because children must observe, make predictions, and make decisions.

B. METHOD

Science learning to develop scientific attitudes of young children is carried out using animation thematic animal husbandry science learning. This animation media is a science learning media in which there are stories and science activities as supporting activities for learning science. Animation media for learning science is an interesting learning media for children because children will watch the science story shows and continue by doing science activities directly. The method of storytelling is one of the learning methods that children love and attracts children's attention and invites children to focus more on the scientific theme to be conveyed. Children's experience will be stronger by conducting science experiments, children will immediately come in contact with science activities, and find answers to their curiosity. Children will get experience, information and knowledge from scientific activities they do. Thus it will improve the scientific attitude of early childhood. Description of animation media for thematic science learning in animal husbandry to develop children's scientific attitudes:

- a. Animation Media, a media in the form of sequential and moving images using computer technology, which can support science learning activities in children
- b. Sciences Story, short stories that illustrate the truth about the scientific process that is displayed in the form of animation, so that it interests the child in learning about science.
- c. Sciences Learning, play activities while learning through simple experiments about science covering the theme of animal husbandry. Through science experiments it is hoped that children can develop a very important scientific attitude as a provision in their future lives.
- d. Scientific attitude, was developed referring to the development of Basic Competence in 2014 Permendikbud No. 146 about PAUD curriculum are:
 - 1) Have a behavior that reflects a curious attitude (KD 2.2).
 - 2) Have behaviors that reflect a creative attitude (KD 2.3).
 - 3) Having behavior that expresses confidence (KD 2.5).
 - 4) Have a cooperative attitude (KD 2.10).
 - 5) Knowing ways and being able to solve everyday problems and think creatively (KD 3.5/4.5).

- 6) Having a caring attitude towards the environment by knowing the natural environment (KD 3.8/4.8).

In the framework of developing this research, major activities will be carried out in the form of research and development (R and D) activities. As the name implies, Research & Development is understood as a research activity that starts with research and continues with development. Research activities are carried out to obtain information about user needs (needs assessment) while development activities are carried out to produce learning tools. The stages in research and development (R&D) in this research operationally adopt the Borg & Gall model which consists of: 1) Potential and Problems; 2) Gathering Information; 3) Model Development; 4) Model Validation; 5) Model Revision; 6) Model Testing; 7) Model Revision; 8) Wider Testing; and 9) Final Model Revision (Sugiyono, 2008: 298).

RESULT AND DISCUSSION

1. Learning Method

The trial was conducted in three PAUD institutions, namely PAUD Unggulan Taman Belia Kota Semarang, TK IT Mutiara Insan Cendekia Boyolali dan TK N Pembina Kabupaten Magelang Magelang Regency, in the age group of 4-5 years (TK A). The subjects of the learning methods from these 3 PAUD institutions amounted to 85 children divided into two groups namely the experimental group and the control group. The experimental group learned by using thematic animal science learning animation media, while the control group did activities with the same theme but did not use the science learning animation media. The trial activities can be described as follows:

- a. The learning activities begin with an opening, then the teacher shows the animated media thematic farm science learning that begins by showing the animated story, and discussing the contents of the story to give ideas to play with children.
- b. The essence activities are filled with carrying out simple science activities according to the theme.
- c. Closing activities to conclude and instill concepts about the scientific process that children have learned and strengthen scientific attitudes in children, then close the activity of learning.

2. Trial Result

The results of the trial were proven by statistical analysis analysis to find out the effectiveness of the thematic science learning animation media for developing scientific attitudes in early childhood. To determine the effectiveness of the dependent t test and independent t test used because the data obtained were normally distributed.

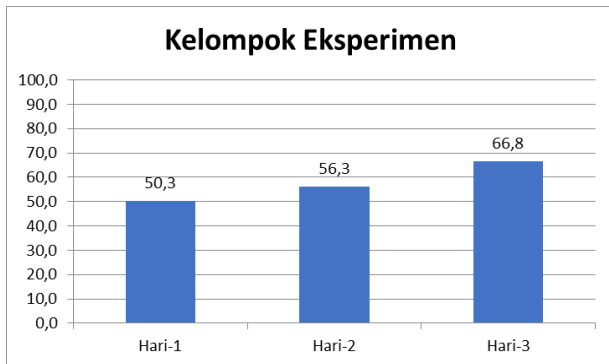
- a. Differences in early childhood scientific attitudes before and after learning by using thematic animal science learning animation media in the experiments group.

Table 1. Differences in early childhood scientific attitudes before and after learning using the science learning animation media in the experiments group

Variable	Treatment	N	Mean	SD	T	p-value
Attitude	Pretest	44	50,33	8,47	-12,814	0,000
	Posttest	44	66,76	8,24		

The results in the table, it can be seen that the average value of children's attitudes before using the Animal Thematic Science Learning Animation Media by 50.76, then increased to 66.76 after using the media. Based on the T dependent test, a t-value of -12,814 was obtained with a p-value of 0,000. It can be seen that the $p\text{-value } 0,000 < \alpha (0.05)$, this shows that there are significant differences in children's scientific attitudes before and after using media. It also showed that science learning using the media is effective in improving scientific attitudes in early childhood. This increase can be seen from changes in children's attitudes during 3 times the learning model of media showed in the following chart:

Figure 1. Changes in the value of children's scientific attitudes after 3 times learning using the media



The figure 1 showed that the value of children's attitudes continues to increase from 50.3 on the first day to 56.3 after using the Thematic Animal Science Learning Animation Media on the second day and again increasing to 66.8 on the third day.

b. Differences in early childhood scientific attitudes before and after learning using the science learning animation media in the control group.

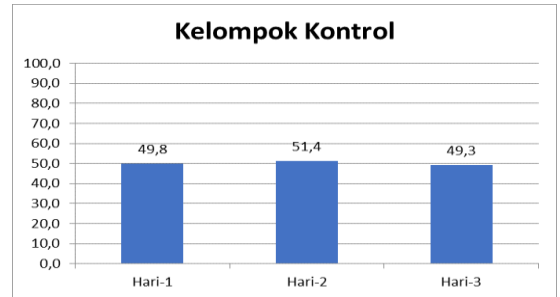
Table 2. Differences in early childhood scientific attitudes before and after research in the control group

Variable	Group	N	Mean	SD	T	p-value
Posttest Attitude	Experiment	44	66,76	8,24	8,870	0,000
	Control	41	49,28	9,90		

Based On the table, it can be seen that in the control group that did not use the Thematic Science Learning Animation Media in Livestock, the average value of the attitude of the child before the study (pretest) was 49.82, then after the study (posttest) experienced a slight change to 49.28. Based on the independent t test, it was found that the t value was 0.313 with a p-value of 0.756. It can be seen that the $p\text{-value } 0.756 > \alpha (0.05)$, this showed that there is no significant difference in the scientific attitude of children between pretest and posttest in

the control group. This showed that because the control group was not given learning using media, children's scientific attitudes tended to stay or ange. This is evident from the results of the graph presented below

Figure 2. Changes in the scientific attitude of pretest and posttest children in the control group.



c. T

he Effectiveness of media to develop scientific attitudes in early childhood

Table 3. The effectiveness test of media for developing scientific attitudes in early childhood

Variable	Treatment	N	Mean	SD	T	p-value
Attitude	Pretest	41	49,82	8,49	0,313	0,756
	Posttest	41	49,28	9,90		

Based on the table, it can be seen that in the experimental group, the average value of a child's scientific attitude after using the media was 66.76 while in the control group that did not use the media it was only 49.28. Based on the independent t test, it was found that the t value was 8,870 with a p-value of 0,000. It can be seen that the $p\text{-value } 0,000 < \alpha (0.05)$, this showed that there are significant differences in the scientific attitude of children after using the media between the experimental group and the control group. It also showed that media is effective for developing scientific attitudes in early childhood. It can be seen that the average value of children's attitudes after using the media is 66.76 which is greater than the control group 49.28 who did not use the media.

D. CONCLUSION

This media is a learning media that can be used as a guide and used by PAUD teachers, especially in TK A and TK B in carrying out science learning. This media can increase children's learning motivation in science material because it is presented in an interesting way by showing an animated video that contains stories and scientific activities that are equipped with an explanation of the scientific process and simple experiments that can develop children's scientific attitudes. The animated media for thematic animal science learning is very supportive of the scientific approach to PAUD learning because it gives children the opportunity to conduct various experiments in play activities to build their own knowledge. The results of a trial of animal husbandry science learning animation media said that this animation media was effective

in improving scientific attitudes in early childhood. This is evidenced by the results of the effectiveness test of the thematic science learning animation media in the experimental group after the provision of science learning using the thematic science learning animation media, the average value of scientific attitudes of young children is 66.76. in the control group that did not use animation media thematic animal science learning, after research the average value of scientific attitudes of young children was only 49.27.

Suggestion

Based on the results of science learning trials using animation thematic animal husbandry science learning media to develop scientific attitudes in early childhood, the following can be recommended:

1. The teachers of PAUD can use this media for their students so that it can stimulate children's scientific attitudes. This media can be used as a guide to explain science to children who are equipped with experimental activities and assessment instruments.
2. Learning science in children becomes interesting because it uses animated media for learning science, in which there are stories and children can conduct science experiments directly. Thus providing opportunities that this animated thematic animal science learning media will be much in demand by children and PAUD teachers.
3. By using this media, it can be used as the basis for the formation of children's characters, because the method of story and science experiments can develop scientific attitudes of young children. The animated media for thematic animal science learning as an alternative for PAUD institutions in Indonesia who want to develop a scientific attitude towards children which is the basis for the formation of children's character.

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