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The Effectiveness of Interactive Learning Powerpoint Media to Increase Knowledge of Dental Health in B Group of TKIT Permata Hati Ngaliyan Semarang

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Abstract

Dental health is an important part of overall health. In children, the disease and tooth decay can lead to adverse consequences for growth, for it takes considerable knowledge so that children can take care of their teeth. One great way to increase the knowledge of the child's teeth in the current era is to provide play activities and learning with technology is through interactive media powerpoint.The problem in this research is whether interactive learning media powerpoint effective in increasing knowledge of dental health of children at the age of 5-6 years. This study aims to determine the effectiveness of interactive learning powerpoint media increase knowledge of dental health in children at age 5-6 years. The research was conducted in TKIT Ngaliyan Semarang Permata Hati using the form Pre-experimental design to approach one group pretest-posttest design. The samples used were children aged 5-6 years as many as 32 children. The technique of taking samples in this research is technique. purposive sample Analysis of the data used is the method Until Independent t-Test. The calculation result data showed an increase in values mean originally became 126.3 88.13. The amount of the increase that occurred at 38.25. Based on calculations using paired t-Test Sample obtained values - ttable> t> ttable,namely (- 2,039> - 21 534 or 21 534> 2,039), with sig = 0.000. A significant difference can be seen from two tailed sig <0.05 is 0.000 or Sig. (2-tailed) <0,05 so Ha received and H0 is rejected. It can be concluded that by using interactive powerpoint media could increase knowledge of dental health in children at age 5-6 years.

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INTRODUCTION

Early childhood is an age that has a critical period of growth and development of children, because this is the period of future development of the child's most optimal both for intelligence and physical. According to that described by (the Faithful, 2015) Health became a key condition for successful education, on the other hand; if education is achieved will support the success of a person and their health status will increase. Child health is not optimal due to a disease that makes it obstructed one of which is dental disease. Gum disease is a disease of the highest complaints by the people (Pontonuwu et al., 2013). Gum disease affects most people, especially in children is dental caries disease.

Dental caries is a disease of dental hard tissues characterized by tissue damage, starting from the tooth surface extends in the direction of the pulp that can lead to a sense of pain . Make children experience dental caries chewing power and disruption of digestion, resulting in growth of less than the maximum. The need for the provision of knowledge of dental health in children would make children aware that dental care is very important for growth, because all this knowledge about dental health just be limited to the practice of the toothbrush and the teacher explained that the toothbrush is important, including the TKIT Permata Hati Ngaliyan Semarang , Giving worksheets media was one of the main learning that promote children feel bored because less varied so too monotonous for children. It has an impact on children have difficulty understanding the learning so that knowledge is not maximized because basically increasing teachers' skills in using technology, can create a variety of learning. Through a variety of learning can provide meaningful learning and can develop a variety of potential intelligence of children (Astuti and Waluyo, 2014).

According to Piaget's theory which states that children at the age of 2-7 years are in the pre-operational stage. At this age children need the right stimulus to stimulate the growth and development of optimal (Dina,2014). Kids at this stage are very pleased with the learning activities that include illustrations, models, pictures, and activities that seem more real to others. Quoting from (Fatmawati, 2011) a teacher should be able to provide appropriate direction and guidance for children so that they can explore their environment through every stage of the development of meaningful and learn in the fun, interesting, and relevant to their experience. With children to play while learning how to be more receptive to be conveyed by the teacher. The lack of reinforcement in studying dental hygiene at Permata Hati TKIT This makes knowledge of children about dental health is still fairly minimal. The theme of "Me" that would normally be included in the sub-theme "Caring for my body" most forms of activity just using worksheets, flannel boards, beads for rmeronce puzzle and lego only.

Departing from the existing problems in the field, researchers concluded that the need for a media game so that children can learn with more fun because, learning media is one important component in achieving success in the learning process (Hanifah, 2014) media to be used must be able to help children to increase knowledge of dental health of children is by using interactive powerpoint media.

According to (Gerlach and Ely in Arsyad, 2002: 11) explains the characteristics of the media proper education used are as follows: (a) Characteristics fixatives, An object that has been photographed (recorded) by a camera or a video camera can easily be reproduced easily whenever required (b) characteristics manipulatives, events that took days can be presented to students within two or three minutes with the technique of shooting time-lapse recording (c) characteristics Distributive, allowing objects transported via integrated displays and could well describe the same condition in children with the same stimuli relative experience.

The author chose powerpoint as a program to develop these media fit for use in a program on learning as it was powerpoint already very familiar with the world of education and the program is very easy to find, so its not difficult to operate when you want to run the program. powerpoint is usually used in a presentation, but this program has facilities that are sufficient to create an interactive learning media become more attractive because including text, sound, pictures, and even videos at once if you can developed it. Slides or pages on PowerPoint specially designed with supplemented by buttons that will engage users in operate powerpoint. The format of the presentation powerpoint can also be removed in order for the user interaction with the media learning more visible. Users can choose a menu that is already available for the next process receives responses from about at will if it was not yet understood. So that knowledge of children about dental health can be increased directly due interactive learning powerpoint media very easy to access and also fun because there are a lot of colors in it.

Levie & Lenzt (in Arsyad, 2013: 20) men-

tions four functions and some of the benefits of learning media, namely (a). Attention functions, which attract and direct attention to the students to concentrate on the content of subjects related to the meaning of visual display or text accompanying the subject matter. (b) affective function. seen from the enjoyment level of students when learning (or read) the text display. Image or visual symbol can arouse emotions and attitudes. (c) Cognitive Function. Cognitive function of visual media is visible from the research findings that reveal that the visual symbol or image facilitate the achievement of the aim to understand and remember information or messages contained in the image. (d) compensatory function to understand the text help students weak in reading for organizing information in text and recall. In other words, learning media serves to accommodate students who are weak and slow to accept and understand the contents of the lessons are presented with text or presented verbally.

The benefits of learning media is as follows: (a) The lesson will draw more attention so as to motivate students to learn (b) Learning materials will be quite vague so that it can be understood by students and enable it to master and achieve learning objectives. (c) Methods of teaching will be more varied, not merely verbal communication through the narrative of words by teachers, so students do not get bored and teachers do not run out of steam, especially when teachers teach at every hour so childrens can more learning activities because not only to hear the teacher, but also other activities such as observing, doing, demonstrates, plays, and others.

RESEARCH METHODS

This study using a quantitative research conducted this study which is in TKIT Ngaliyan Semarang Permata Hati. The study design used is Pre-Experimental Design to approach one group pretest-posttest design.The study sample consisted of 32 children with comprehension level categories of low, medium, and high. The sampling technique in this research is purposive sampling. Methods of data collection in this study using the scale of the level of knowledge after the dental health of children 5-6 years with the number 42 valid items that have previously been tested. This study uses descriptive data analysis and hypothesis testing techniques Paired Until t-test.

RESULTS AND DISCUSSION

The results of data pretest show the level of knowledge of dental health of children beginning as much as 28% on lower criteria which are at intervals of 42-84 number 9 children, then the percentage of 72% on the criteria of being at intervals of 85-127 number of 23 children, and no children at high criteria with the interval 128-169. In general, children have a level of understanding that is in the knowledge of dental health, the treatment or the treatment will be used so that knowledge of dental health of children can be improved from pretest state. Kids in general are active learners and curiosity high, experts ECD believe that play is a learning tool is best for early childhood learning because that way the child gain direct experience (play and learn) in accordance with the theory put forward by Hasjiandito (2015).

After being given the treatment, posttest outcome data showing that no child has low criteria in the level of knowledge of dental health. Later with the criteria being numbered 12 children with a percentage of 37.5% and higher criteria consist of 20 children with a percentage of 62.5%.

Based on data collected pretest and posttest, it can be tested t-Test through trials difference Paired Sample t-Test. In this calculation the researchers used SPSS 23.0 for Windows. The results of the t test output Test can be seen in Table 1:

Table 1. Paired Samples Test

	Paired diferences		**t**	**Sig(2-tailed)**
		Mean		
Pair 1	Pre_Test-Post_Test	-38.250	-21.534	.000

Based on the calculation results obtained by value t test - t_{table} >$_{t>}$ $t_{table,}$ namely (- 2,039> - 21 534 or 21 534> 2,039), with sig = 0.000, conclusions derived are $H_{0\ is}$ rejected and H_a accepted, meaning that there is a significant influence of the interactive media powerpoint child's group B. A significant difference can be seen from sig two tailed <0.05 is 0.000. In addition, the results of the average (mean) children aged 5-6 years kno-

wledge about dental health also suffered from the difference in the average pretest obtained is 88.13, after being given treatment or treatments turn out to be 126.38. Then the results obtained explain that the interactive media exerts powerpoint, knowledge of children aged 5-6 years increased.

Dental health is important in the life of every individual, including children. Dental caries disease is a common dental diseases in children. As has been described (Fitrianti, 2017) Dental caries is a disease in hard tissue of teeth, email, dentin, and cementum which is characterized by the occurrence of demineralization in hard tissue of teeth, followed by damage to the pulp tissue as well as the spread of infection to the periapical tissues and cause a sense of pain. Lack of knowledge of dental health of children makes them less concerned with dental disease is headed.

Explanation teachers about the importance of dental care for children is not enough to make children aware that toothbrushes and dental care from an early age is very important because the explanation made by the class teacher in nature tend to be monotonous make children become bored so what is described by teachers are not well received by the child. Taking care of teeth is very important from an early age because it provides prevention programs for children of primary school need to be intensified in order to prevent the situation worse, which will most likely occur in adolescence and adulthood (Sundoro, 2005: 101) in addition to the (Gede et al, 2013: 84-85) also argues that one cause of child neglect dental and mouth health problems are due to lack of knowledge about oral health.

Educational model for early childhood should be adjusted to the time of their development which is still dominated by games as a medium for knowledge transfer (Lusiana, 2014) and learning for young children should be packaged in a game that is fun for children always have enthusiastic in participating in learning because as described by (Suroningsih, 2013) because playing together with work in adults, the most important aspect in the lives of children and is one of the most effective ways to lower stress in children, as well as important for mental and emotional welfare of children. Therefore, researchers are interested in creating a media that is interesting and fun to children so that children can play and learn with interactive media given powerpoint related to dental health. According to (Jonah Arsyad 2005: 16) Instructional media most influence to the senses and better able to ensure understanding of the people who listen to just not the same level of understanding and duration survive what he understood than those who saw, or saw and heard. By learning the audio and visual shows simultaneously expected that children can receive the learning easily and all romantic. Likewise, according to (Seels and Glasgow in Arsyad 2005: 36) argues that interactive media is a media delivery, which presents video footage with computer control to the audience (students) who not only hear and see the video and sound, but also to respond actively and the response that determines the speed and sequencing of the presentation. So that at the conclusion of interactive media is more effective because it can facilitate the learning process

Interactive powerpoint media is a right choice to increase the knowledge of children about dental health for media powerpoint is easy to operate. (Nurhidayat 2012) conducted a study which is to determine the ratio between the effectiveness of the media powerpoint with flipchart explained that the media powerpoint is more effective compared to the flipchart.

Powerpoint is usually used in a presentation, but this program has facilities that are sufficient to create an interactive learning media become more attractive because developers can include text, sound, pictures, and even videos at once. slides or pages on a PowerPoint specially designed to include buttons that will engage users in operating powerpoint. The format of the presentation powerpoint can also be removed in order for the user interaction with the media learning more visible. Users can choose a menu that is already available for the next process receives responses from about at will if it was not yet understood. So that knowledge of children about dental health can be increased directly due interactive learning powerpoint media very easy to access and also fun because there are a lot of colors in it.

Interactive media Powerpoint is called "Play and Learn Together Friends Gigi" to be closer to children. Media containing predominantly blue color theme contains about slide learning and slide play, children can choose whichever comes first activity is desired. In any slide given learning audio explaining the learning according to the picture which is a recording of the sound of the researchers themselves. slide The first there is an explanation of the differences in the teeth healthy and unhealthy showing a direct picture of how the results if the tooth treated well and were not hospitalized, and no explanation of the tips on maintaining healthy teeth that describes what is being done so that the teeth can be maintained, slide the next dental health education or know-

ledge of dental health, 5 easy steps teeth healthy and strong, then there is an explanation of how the toothbrush is good and right, slide the last lesson taken from the conclusion of each title.

In the slide playing there are 4 options that can be chosen by the child that is playing seek trail or the maze that is still associated on the teeth. Kids can find the right path according to the rules in order to the place of destination. Before children play each slide by the norm of the game so that children fully understand how to play. The next games, children can play looking for the lost object in which the child is asked to find the missing objects in the room were very messy. After that the child can complete a quiz of 10 questions related to dental health study have previously been studied. Finally, the child can choose to watch a video on how to care for your teeth properly. The scope of the material introduced into the game in interactive powerpoint media are deliberately simple and limited as in this study researchers only help children to get to know the base of the tooth health.

Powerpoint interactive media that has been made has been tested with a media expert. In addition, prior to conducting research in TKIT Permata Hati Ngaliyan Semarang to test the validity and reliability to determine whether the media will be a tool for the treatment or treatment is feasible or not. This study is the final activity in which researchers use the same method with pretest activities at the beginning of the study, to determine the level of knowledge of dental health of children in group B. After treatment given 12 times the results indicate no children are showing low criteria, 12 children with the criteria of being at the level of classification capability of 37.5% and 20 respondents with high criteria of 62.5%. So in general we can conclude the level of knowledge of dental health of children in group B after given interactive powerpoint media in the high category with an index of 62.5% percentage.

These results prove that interactive media powerpoint effectively improve the ability of the classification before being given treatment is generally located on the criteria that are in the criteria is becoming a high after being treated. After being given a treatment based on a statistical calculation, the results obtained by the test result data T-test through the test of difference Paired Sample t-Test in SPSS. The test results obtained value of T-test - $t_{table>}$ $t>$ $t_{table,}$ namely (- 2,039> - 21 534 or 21 534> 2,039), with significant values (2 tailed) of 0.000. This shows a significant difference between the results of data test pretest and posttest of the use of interactive powerpoint media to dental health knowledge of children in group B. Hypothesis test obtained $H_{0\ is}$ rejected and H_a accepted, the conclusion after being given treatment using interactive powerpoint media knowledge of dental health of children group B. The results of the average score of 88.13 was in before given treatment after being given treatment increased to 126.37, resulting in an increase in the average score as much as 38.25.

It can be concluded children in group B experienced giving a enhancement knowledge of dental health because it can be a significant difference between the results of scores the pretest and scores posttest results. Interactive powerpoint media are used for the study were able to improve dental health knowledge of children in group B. It is shown from the average results posttest higher than the average yield of the pretest. It can be concluded that the use of interactive powerpoint media effectively used to improve the dental health of children knowledge of group B.

CONCLUSION

Based on the research that has been implemented then be concluded that the level of knowledge of dental health of children aged 5-6 years after being given a interactive powerpoint media is increasing and there is a difference significantly, with this it can be said that the provision of interactive powerpoint media effective in increasing knowledge of dental health of children aged 5-6 years. This is indicated by the difference in the average value of the level of knowledge of dental health of children in TKIT Ngaliyan Semarang Permata Hati before and after a given treatment or treatment that is given interactive powerpoint media, namely from 88.13be 126.3. The amount of the increase that occurred at 38.25. Hypothesis test results also show that the Sig. 0,000 <0,05 and $t_{count>}$ t_{table} (2,039> - 21 534).

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