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Smart Tree on Knowledge of The Process of Calculus in elementary school children

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ABSTRACT

Background: According to Riskesdas 2018, it was also found that Indonesian people have not brushed their teeth routinely and correctly. The percentage of people who brush their teeth every day and at the right time is still low. Research purposes: Understanding how to use Smart Tree in gaining an understanding of the calculus process in grade V students of MI Hibrul Ulama. Methods : This study uses a survey method with quasi experimental method approach involving pre test and post test design, the sample in this study amounted to 28 respondents. The data analysis of this study uses the Bivariate Test, namely the Normality Test and the Wilcoxon Test. Result : Statistical tests show that there is an increase between the pre-test and post-test, which is indicated by an asymp.sig value of 0.000 on the knowledge variable, meaning that the variable is <0.05 so that Ha can be accepted. Conclusion : the influence of smart tree media toincrease knowledge of dental and oral health in the process of calculus in class V students of MI Hibrul Ulama Bogor.

INTRODUCTION

Maintaining good dental and oral health is an important aspect of maintaining overall health because it has a positive effect on overall body health. By maintaining dental and oral hygiene, individuals can improve their overall health, both physically and overall (Rokhayati, 2022). Teeth are an important part of the human body that has the same important task as other parts of the body. However, many people ignore dental and oral hygiene, which can cause dental and oral health problems such as dirt and toothache. Previous researchers have shown that lack of dental and oral hygiene is the main cause of these health problems (Syarat et al., 2020).

This is in line with research Santoso et al (2020), who stated that dental and oral health problems are generally quite high in Indonesia. The problem that is the main cause of dental and oral health is tartar. Dental calculus, or often referred to as tartar, is an accumulation of plaque that adheres firmly to the surface of the teeth and other solid objects in the mouth, causing the teeth to feel rough and look thick (Pelealu et al., 2019). Dental and oral health problems can be overcome through the involvement of dental health education. Dental and oral health education needs to be delivered in an engaging way, such as through live performances, audio-visual programs, or shared toothbrushing activities. The importance of brushing habits also states that brushing teeth regularly is an effort to maintain dental and oral health (Larasati et al., 2021).

According to Fadjeri et al., (2023), Improving dental and oral health maintenance behavior can be done with interesting and appropriate media. Learning media refers to everything that can be used to convey messages or information in the teaching and learning process, with the aim of attracting students' attention and interest in learning (Yulistina, Arawa et al., 2021). The use of media has an important role in improving learning efficiency or creating an appropriate learning environment that can improve student understanding (Lestari & Suprapti, 2022). The use of this smart tree can make the learning process easier for students (Monika et al., 2020).

From the background above, the author is interested in conducting research on "Smart Tree on Knowledge of the Calculus Process in Grade V students of SD MI Hibrul Ulama" so that elementary school

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children can learn about dental and oral health so as to reduce the occurrence of dental and oral diseases, especially calculus.

METHOD

In this research, a quantitative approach was used with a quasi-experimental method involving pre- and post-tests (Sugiyono, 2014). The purpose of this study was to observe the effect of the independent variable, namely Smart Tree Media, on the dependent variable, namely the calculus process. The sampling technique used was the total sampling technique. The selection of this total sampling technique was based on the consideration that the number of the existing population was relatively small, allowing all members of the population to be included in the study without requiring more complex sampling techniques. By using total sampling, it is hoped that the results of the study can accurately reflect the conditions of the entire population (Firmansyah et al., 2022).

This research involved a population of 28 respondents who were elementary school children aged 9 to 11 years at MI Hibrul Ulama Bogor will be conducted at MI Hibrul Ulama Bogor which is located in Kp. Seremped RT.02/RW.06, Mekarwangi, Kec. Tanah Sereal, Bogor City, West Java 16168. The research instruments used include smart tree media that displays an explanation of the calculus process, as well as pre-test and post-test knowledge questionnaires consisting of 15 closed questions that must be answered by respondents.

RESULT

The sample or respondents in this study amounted to 28 student who had been approved on the *informed consent sheet*.

Table 1. Frequency Distribution Pretest of Knowledge

Criteria		Frequency	Percent (%)
Good	(75-100)	0	0
Moderate	(60-74)	18	64
Bad	(0-59)	10	36
Total		28	100

Based on the data from table 1, it can be seen that the largest percentage occurs in the moderate category (60 – 74) with a total of 18 respondents, or equivalent to 64% of the total sample studied. Meanwhile, for the poor category (0 – 59), there were 10 respondents, covering around 35% of the total sample.

Table 2. Frequency Distribution Posttest of Knowledge

Criteria		Frequency	Percent (%)
Good	(75-100)	28	100
Moderate	(60-74)	0	0
Bad	(0-59)	0	0
Total		28	100

Based on the data from table 2, there is evidence that all 28 respondents experienced an increase in knowledge after receiving counseling using smart tree-based visual media. The highest percentage was found in the good category, which reached 100%.

Table 3. Test of Normality

Knowledge	Frequency	Sig.
Pretest	28	0.001
Posttest	28	0.000

**Shapiro-Wilk*

Based on the data from table 3, it was found that the pre-test knowledge data had a significance of 0.001, while the post-test knowledge data had a significance of 0.000. This shows that almost all variables

have a P-Value <0.05, indicating that the data e variables are not normally distributed. Therefore, the next step is to use the Wilcoxon test to analyze data that is not normally distributed and paired.

Table 4. Increased of Knowledge

Knowledge	Frequency	Mean	Std. Deviasi	Sig.
Pretest	28	2,36	4,88	0.000
Posttest	28	1,00	0,00	

**Wilcoxon*

Based on the data from table 4, the results show that before and after dental health knowledge counseling, there is a significant difference with a significance value of p = 0.000 (p-value <0.05). These data confirm that there is a significant increase in knowledge of the calculus process after counseling using smart tree media. It can be concluded that the use of smart tree media has a significant impact on increasing knowledge about the calculus process.

DISCUSSION

In this study, it was found that the frequency distribution of the value before Using Smart Tree Media Shows the Level of Dental Health Knowledge and a mouth that is still low. However, after using smart tree media, there is an increase in the number of scores indicating an increase in knowledge 40 child. This indicates that counseling on dental health knowledge and the mouth using smart tree media is effective in increasing children's knowledge. Smart tree media, such as those used in research Herawani, et al (2019), can be an effective tool in increasing student learning outcomes. This material is known as a "smart tree" because it is illustrated as a tree that has trunks, branches, and leaves. Leaves The tree contains an explanation of the long series and short of the material that will be used as a tool to present material. This smart tree can be easily used by anyone (Monika et al., 2020).

The results of the Wilcoxon test show the significance of the before and after values providing counseling using smart tree media p-0.000. It is showed a significant increase from pre-test to post-test, shows that the provision of counseling using smart tree media effective in increasing children's knowledge level. This increase occurs because the use of Smart Tree media allows for increased interaction between researchers and respondents, allowing for a deeper understanding of about the material or concept. In addition, the use of Smart Tree also increases efficiency in the research process. The results of the data analysis from this study are supported by previous research conducted by Febiola (2020), It shows that the use of smart tree media in early childhood numeracy skills can increase understanding of the material provided. Research by Anan, et al (2020), it also shows that there is an increase in knowledge when using the help of smart tree media. The use of smart tree media can increase the subject of discussion (Purba et al., 2021).

CONCLUSION

Based on the research results, it can be concluded that smart tree media has been proven effective in increasing knowledge about dental and oral health in grade V students of MI Hibrul Ulama, Bogor.

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