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Kinetic Sand Games To Overcome The Dependence Of Gadget Dependence On Children In Elementary School Age

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Abstract. *The development of digital technologies such as gadgets has grown very rapidly in the last decade, which applications often do not determine the age range for users, especially for children. Today, parents are faced with the dilemma of letting their children use these modern gadgets, which often cause serious addiction or keep them in the dark and risk facing children who know nothing. These problems also occur in MI Miftahul Huda students in the Tulungagung Regency in East Java province. The research was conducted on February 20 to March 20, 2024. This research was only limited to one class, namely class 2 with the dependence of the gadget to be given an alternative game of kinetic sand. The design of this study uses experimental quasy with pre and post design tests. The population in this study were MI Miftahul Huda Pulerejo Tulungagung students who were dependent on gadgets that met the research inclusion criteria. The sample in this study were 23 respondents. The problem of gadget dependency data has a very high level, which will affect the development of children's social skills. For that, a suitable method is needed for analyzing it, the method that has been used is to use traditional games by playing with their peers. Another solution researchers will use the game of kinetic sand to overcome the problem of gadget dependence on children, which has benefits in playing kinetic sand such as for creativity and as a gathering place for socialization. The general objective is to play kinetic sand to develop social skills in children, while the specific goal is to find out whether kinetic sand is the right game tool to overcome gadget dependency problems in primary school-age children. The expected benefits are the proposer researchers can socialize the game of kinetic sand to teachers and guardians of students in elementary school so that after this study ends, the game of kinetic sand can be applied to students or children of primary school age. The plan of this activity will begin with 1) collecting academic data, distributing questionnaires to student guardians, 2) data analysis, 3) testing using kinetic sand games, 4) discussing the results of the trial. The output that will be carried out are scientific publications in accredited national journals or non-accredited national journals.*

Keywords *Kinetic sand layout, Gadget dependence, Elementary school age children.*

1. INTRODUCTION

In this era of increasingly sophisticated technology, parents consider gadgets to be a tool that can be used to educate children, so it is no longer strange if children receive gadget facilities from their parents. According to Widiawati, I., Sugiman, H., & Edy. (2014) gadgets have been used by children aged 7-11 years, and even more ironically, gadgets have been used by children aged 3-6 years, who should not be suitable for using gadgets.

Several researchers state that there are many negative impacts of gadget use on children. Meanwhile, in research conducted by Maulida, O. H. (2013) stated that gadgets bring many changes in life patterns, without realizing it, someone who often uses gadgets can cause social inequality in society, in his research there is also a case example that a 5th grade elementary school boy has done sexual harassment against his peers, this happens because the child often watches pornographic videos which can be easily accessed on his gadget. Children aged 5-12 years are the largest users of advances in technology and information. It is not surprising that

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children aged 5-12 years are said to be the multi-tasking generation. Manumpil, B., Ismato, Y., & Onibala, F. (2015) in their research stated that gadget dependence can reduce performance due to weak concentration, affect the ability to analyze problems, lazy writing and reading, and reduce social skills.

Elementary school age children currently have a very high dependency on gadgets, research results from Soewito, B., & Isa, S. M (2015) show that 80% of these gadgets will influence the development of children's social skills.

According to Nawangsari, G. (2016) that traditional games are effective in reducing the tendency for gadget or internet addiction in children. In his research, Syahran, R. (2015) entitled "Online Game Addiction and its Management" quoted from research by Charmaine D. ; 2) Make a schedule for dividing your time between playing games and obligations; 3) Providing social support through people or playmates; 4) Get involved directly with game players so they know the extent of the dependency effect and establish good communication to create a comfortable atmosphere and be under good control.

According to Olivia, F. (2013) in his book, children can retain messages about 40% better if they are displayed in color. In this case, researchers will use kinetic sand games to overcome the problem of gadget dependence in children. Because with kinetic sand games, children will be more creative and can gather with as many friends as possible to socialize. The general aim of kinetic sand games is to develop social skills in children, while the specific aim is to find out whether kinetic sand is an appropriate play tool to overcome the problem of gadget dependence in elementary school age children.

Tulungagung City is a city on the island of Java, especially in the East Java area. However, from the preliminary study I conducted, it can be seen that gadget enthusiasts are also quite high in the city of Tulungagung, gadget enthusiasts are not only adults but gadget enthusiasts among children are also high, especially among elementary school children at MI Miftahul Huda Ngantru Tulungagung. These elementary school students are already familiar with gadget technology, in fact most of the students at MI MIftahul Huda already own gadgets personally. The gadgets they have are mostly cellphone and tablet type gadgets. Based on an initial survey conducted by researchers on 4 MI Miftahul Huda students who frequently used gadgets, the result was that 4 (100%) did not use gadgets during the introduction of the kinetic sand game for 1 month.

Researchers hope that parents can overcome their sons and daughters' gadget addiction by introducing the kinetic sand game. Because there are so many benefits that can be gained from playing kinetic sand, including; can hone their physical and motor skills, train children's

imagination and creativity skills with various forms of sand molds available, can train cognitive abilities, practice cooperation skills, keep children busy and calm worried children because playing with sand is fun, children can busy playing with sand for a relatively long time. Those who were previously worried, perhaps because they were bored or fed up, or just wanted to keep watching TV, could end up being more busy playing in the sand. Based on the description above, the researcher intends to analyze " Kinetic Sand Games To Overcome The Dependence Of Gadget Dependence On Children In Elementary School Age"

The aim of this research is to find the causes of students' gadget dependency, to find a suitable tool to transition gadget dependency, to prove that kinetic sand games are the best tool in cases of gadget dependency.

2. MATERIALS AND METHODS

Data was obtained from the school principal. The method for obtaining data is using questionnaires, interviews and observation. The target is MI Miftakhul Huda Ngantru Tulungagung students who meet the inclusion criteria. Observe respondents playing kinetic sand using a checklist and then write on the observation sheet. Then the researcher made observations based on the level of gadget use and recorded them on the observation sheet.

Data analysis by testing using kinetic sand games on students whose dependence on gadgets is determined based on the results of a preliminary study.

The evaluation results used are that the kinetic sand game is accurate and successful in overcoming the problem of gadget dependency. At this stage, an analysis is carried out based on the evaluation of the kinetic sand game and a discussion is carried out on the factors that cause dependency on gadgets that have non-dependent, low, medium and high performance

3. RESULTS AND DISCUSSION

Results

In this case, the results of research regarding Kinetic Sand Games to Overcome the Problem of Gadget Dependence in Elementary School Children will be described. This research was conducted on 20 February – 20 March 2024 at MI Miftahul Huda Pulerejo Tulungagung. The sample obtained was 23 respondents according to the inclusion criteria. The research results include the age characteristics of the respondent's children.

Table 1. Distribution of age characteristics of respondents' children

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NO	AGE OF THE RESPONDENT CHILD	FREQUENCY	%
1	7-8 year	23	100
Total		23	100

Table 2. Frequency Distribution of Respondents Based on the Influence of prior use of kinetic sand on the level of gadget dependence among elementary school children at MI Miftahul Huda Pulerejo Tulungagung

NO	PRE	FREQUENCY	%
1	Not dependent	0	0
2	Low	0	0
3	Currently	23	100
4	Tall	0	0
Total		23	100

Table 3. Frequency Distribution of Respondents Based on the Effect of using kinetic sand on the level of gadget dependence among elementary school children at MI Miftahul Huda Pulerejo Tulungagung

NO	POST	FREQUENCY	%
1	Not dependent	20	87
2	Low	3	13
3	Currently	0	0
4	Tall	0	0
Total		23	100

Test Statistics[b]

	Post-Pre
Z	**-4.073[a]**
Asymp.Sig. (2-tailed)	**. 000**

Respondent's Attitude		Post Test								Jumlah	
		Not dependent		Low		Currently		Tall			
		∑	%	∑	%	∑	%	∑	%	∑	%
Pre Test	Not dependent	20	87	3	13	0	0	0	0	23	100
	Low	0	0	0	0	0	0	0	0	0	0
	Currently	0	0	0	0	0	0	0	0	0	0
	Tall	0	0	0	0	0	0	0	0	0	0
Jumlah		20	87	3	13	0	0	0	0	23	100

Discussion

Kinetic Sand Game

Kinetic sand games have many benefits, including creativity and as a gathering place for socialization (Peterson, 2016).

According to (Virgawati, 2015) Kinetic sand can be an alternative toy that children like. The level of dependence on gadgets can be assessed, namely, Value 20: Not at all Nomophobia (Not Dependent). Score 21-60: Mild Nomophobia (Low) 61-100: Moderate Nomophobia (medium). 101- 120: Severe Nomophobia (high), (Yildirim, C., & Correia, A. P, 2015).

This low level of dependence is due to children not rarely using kinetic sand games and still asking about their favorite gadgets. On the other hand, those who are not dependent on gadgets because on average they have switched to other alternative games, namely kinetic sand.

Kinetic Sand Games To Overcome The Dependence Of Gadget Dependence On Children In Elementary School Age

Based on the results of research that has been conducted, it is stated that of the 23 students who used kinetic sand, 20 students (87%) did not experience gadget dependence, and 3 students (13%) experienced low level dependence.

The results of the Wilcoxon Test calculation showed that there was an influence of kinetic sand play on the level of Gadget dependency. The gadget dependency of the majority of respondents experienced a decrease from moderate level of dependency to light and non-dependence. The significant influence of using kinetic sand on gadget dependency is shown by the Asym value. Sig. (2Tailed) (P value $0.000 < \alpha\ 0.05$), then H0 is rejected, which means that there is a positive influence on the use of kinetic sand with a strong influence so that the meaning of these results is that there is a positive influence between the use of kinetic sand games and the level of dependence on gadget use. with a strong influence. So the conclusion of this research is that kinetic sand games can be used as an alternative to reduce dependence on using gadgets.

The implementation process does not use kinetic sand games because students use other games, because they think kinetic sand games are less interesting for male students. So the solution that can be done is to provide other, more interesting games that can reduce the child's gadget dependence. According to (Montolalu in the journal Rufaida & Muhammad, 2013) sand play is very beneficial for children's physical, cognitive, social and emotional development.

There is an influence of providing kinetic sand games to overcome the problem of gadget dependence because students use kinetic sand games instead of other games. This is because kinetic sand or colored sand is a learning medium that can be manipulated and can be

applied to several learning activities and has many colors which are very attractive to children. Colored sand can be used as a collage, pouring game, or printing.

4. CONCLUSIONS AND SUGGESTIONS

Conclusion

Based on research analysis and discussion regarding " Kinetic Sand Games To Overcome The Dependence Of Gadget Dependence On Children In Elementary School Age" the following conclusions can be drawn:

Before using kinetic sand, the level of dependence on using gadgets among MI Miftahul Huda Pulerejo Tulungagung students was known to be that some respondents had a moderate level of dependence of 100%.

After using kinetic sand, the level of dependence on gadget use among MI Miftahul Huda Pulerejo Tulungagung students showed that some respondents had a moderate to low level of dependence at 87%, and no dependence at 13%.

The use of kinetic sand games can reduce gadget dependence among MI Miftahul Huda Pulerejo Tulungagung students.

Suggestion

Respondents hope that parents will pay more attention to their children so that they no longer play with gadgets and that parents can divert them with other games, including kinetic sand games.

For MI Miftahul Huda or the research site, it can be used as additional knowledge and used as information about kinetic sand games and teachers provide more direction to their students so they don't play too much with gadgets by informing them of the impact.

For Health Education Institutions, it is hoped that institutions and researchers will provide health education about the impact of gadget games and solutions.

5. ACKNOWLEDGEMENTS

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